

PB84-118751

Final Environmental Impact Statement
Martin Lake D Area Lignite Surface Mine
Henderson, Rusk County, Texas

(U.S.) Environmental Protection Agency
Dallas, TX

Nov 83



U.S. Department of Commerce
National Technical Information Service

NTIS

TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

1. REPORT NO.		2.		3. RECIPIENT'S ACCESSION NO. PB8 4 118751	
4. TITLE AND SUBTITLE FINAL ENVIRONMENTAL IMPACT STATEMENT MARTIN LAKE D AREA LIGNITE SURFACE MINE, HENDERSON, RUSK COUNTY, TEXAS				5. REPORT DATE NOVEMBER, 1983	
7. AUTHOR(S) EPA, REGION 6				6. PERFORMING ORGANIZATION CODE EPAEMA	
9. PERFORMING ORGANIZATION NAME AND ADDRESS Same as box 12.				8. PERFORMING ORGANIZATION REPORT NO. EPA 906/9-83-012	
12. SPONSORING AGENCY NAME AND ADDRESS U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 6 1201 ELM STREET, DALLAS, TEXAS 75270				10. PROGRAM ELEMENT NO.	
				11. CONTRACT/GRANT NO. N/A	
				13. TYPE OF REPORT AND PERIOD COVERED FINAL EIS	
				14. SPONSORING AGENCY CODE	
15. SUPPLEMENTARY NOTES					
16. ABSTRACT THIS STATEMENT WAS PREPARED IN ACCORDANCE WITH THE CLEAN WATER ACT AND NATIONAL ENVIRONMENTAL POLICY ACT TO PROVIDE FOR CONSIDERATION OF EFFECTS FROM PERMITTING WASTEWATER DISCHARGE FROM A "NEWSOURCE" LIGNITE SURFACE MINE TO WATERS OF THE U.S. IMPACTS OF MINING AND RECLAMATION TO GEOLOGY, SOILS, SURFACE WATER, GROUNDWATER, AIR QUALITY, BIOLOGICAL RESOURCES, WILDLIFE HABITAT, CULTURAL RESOURCES AS WELL AS HEALTH EFFECTS OF NOISE, ETC. ON HUMANS. ECONOMICS ARE INCLUDED.					
17. KEY WORDS AND DOCUMENT ANALYSIS					
a. DESCRIPTORS		b. IDENTIFIERS/OPEN ENDED TERMS		c. COSATI Field/Group	
LIGNITE GEOLOGY SURFACE MINING SURFACE WATER GROUNDWATER CULTURAL RESOURCES WILDLIFE HABITAT					
18. DISTRIBUTION STATEMENT RELEASE UNLIMITED		19. SECURITY CLASS (This Report) UNCLASSIFIED		21. NO. OF PAGES 186	
		20. SECURITY CLASS (This page) UNCLASSIFIED		22. PRICE	

United States
Environmental Protection
Agency

Region 6
1201 Elm Street
Dallas TX 75270

EPA 906/9-83-012
November 1983

Water

2884-118751



Environmental Impact Statement

Final

Martin Lake D Area
Lignite Surface Mine
Henderson, Rusk County
Texas

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

This report is available to the public through the
National Technical Information Service, US Department
of Commerce, Springfield, Virginia 22161



Environmental Impact Statement

Final

Martin Lake D Area
Lignite Surface Mine
Henderson, Rusk County
Texas

i.a

TO ALL INTERESTED INDIVIDUALS, GROUPS, AGENCIES AND OFFICIALS:

A Draft Environmental Impact Statement (EPA 906/9-83-003 document) was filed by Region 6 on March 11, 1983 regarding the proposed Martin Lake "D" Area lignite mine. This was subsequent to receiving comments at the scoping meeting and comments from agencies on preliminary draft documents. EPA has held a public hearing, received oral and written comments on the project and Draft EIS, performed additional evaluation and analysis, and determined a course of proposed action on the requested wastewater discharge permit.

We are submitting for your review this Final Environmental Impact Statement (EIS) on the Martin Lake "D" Area Lignite Surface Mine Project proposed near Henderson, Texas by the Texas Utilities Generating Company.

This Final EIS includes: (1) a revised summary; (2) EPA's responses to comments received on the Draft EIS and summary of other public coordination; (3) revisions necessary to the Draft EIS to make a more accurate statement; and (4) preferred alternatives and EPA's proposed action. Unrevised portions of the Draft EIS are incorporated by reference.

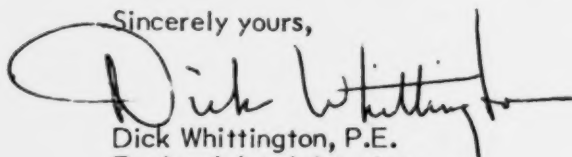
Major concerns of EPA regarding the project include the potential for adverse impacts on surface and ground water resources (especially on water quality of the downstream domestic raw water supply), the loss of U.S. Department of Agriculture designated prime farmland soils, significant change in vegetation with reduction in wildlife habitat and species diversity, impacts to wetlands, and losses of archaeological and historic resources.

Copies of the public hearing transcript and this Final EIS will be available for public review at the four public information depositories: Office of Gregg County Judge, Longview, Texas; Office of Rusk County Judge, Henderson, Texas; Rusk County Memorial Library, Henderson, Texas; and at EPA, Region 6.

Copies of the Final EIS are being distributed to those who made comments on the Draft statement and to those who requested a copy.

Comments or inquiries on the accuracy or conclusions of this EIS should be sent to Clinton B. Spotts, Regional EIS Coordinator by the date, 12 DEC 1983.

Sincerely yours,



Dick Whittington, P.E.
Regional Administrator

FINAL ENVIRONMENTAL IMPACT STATEMENT
MARTIN LAKE "D" AREA LIGNITE SURFACE MINE PROJECT

RESPONSIBLE AGENCY: U.S. Environmental Protection Agency, Region 6

PROPOSED ACTION: Issuance of new source National Pollutant Discharge Elimination System (NPDES) permit to Texas Utilities Generating Company (TUGCO) for discharge of wastewater from the Martin Lake "D" area lignite surface mine near Henderson, in Rusk County, Texas.

COOPERATING AGENCIES: Texas Department of Water Resources, Texas Parks and Wildlife Department, Texas Historical Commission, Texas State Department Highways and Public Transportation, Texas Air Control Board, USDOI Fish and Wildlife Service, USDOI Office of Surface Mining, U.S. Army Corps of Engineers, USDA Soil Conservation Service, Sabine River Authority.

CONTACT FOR COMMENTS/INFORMATION:

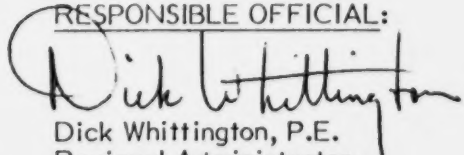
Clinton B. Spotts, Regional EIS Coordinator
U.S. Environmental Protection Agency
1201 Elm Street, Dallas, Texas 75270
(214) 767-2716 or FTS 729-2716

WRITTEN COMMENTS ON FINAL EIS DUE:

12 DEC 1983

ABSTRACT: TUGCO would discharge wastewater from various sedimentation ponds to be located within the mine area. Wastewater receiving streams would include Dry Creek, Mill Creek, Todd Branch, Boggy Branch, Dogwood Creek, Boggy Creek, and other unnamed tributaries. Some 102 million tons mined lignite would be hauled by truck to a crusher at the mine site then transported by rail to Martin Lake Steam Electric Station for burning. Earth would be disturbed by mining to depths varying to 150 feet and by construction of ponds, diversions, haul roads, railroad, and three transmission lines. Environmental changes include loss of existing topsoils, loss of native vegetation and wildlife habitat, removal of wetlands, reduction of species diversity, water quality and stream flow changes, disruption to groundwater levels, loss of water wells, groundwater quality degradation and land use changes. Mine/reclamation plans have not been reviewed/authorized by Railroad Commission of Texas to date. General mine and reclamation plans proposed include random mix of spoil for revegetation primarily with bermuda grass and pine forest species. Long-term impacts would depend on success of land reclamation and level of maintenance for stability in revegetation. Air and water quality control measures are proposed to reduce fugitive dust, crusher emissions, stormwater runoff, erosion and sedimentation. Identification of and mitigation of impacts to significant archaeological and historic sites are expected to be carried out according to the Memorandum of Agreement stipulated on the proposed permit. The project will generate additional taxes and is estimated to provide 240 jobs, and have a payroll of about \$4,000,000.00 annually. Area highways will be directly affected. Area health, educational, governmental, housing, and commercial service needs will increase due to induced population increases.

RESPONSIBLE OFFICIAL:


Dick Whittington, P.E.
Regional Administrator

i.c

TABLE OF CONTENTS

	Page
PART I. SUMMARY OF DRAFT AND FINAL EIS	I-1
A. PURPOSE AND NEED	I-1
B. ALTERNATIVES AND ENVIRONMENTAL CONSEQUENCES	I-1
C. MAJOR ISSUES AND/OR CONCERNS	I-3
D. MAJOR CONCLUSIONS	I-4
PART II. CONSULTATION AND COORDINATION	II-1
A. ACTIVITIES PRIOR TO THE DEIS	II-1
B. PUBLICATION OF THE DEIS AND THE PUBLIC HEARING	II-10
C. THE FEIS AND RECORD OF DECISION	II-80
PART III. MODIFICATIONS AND CORRECTIONS TO THE DRAFT EIS	III-1
A. REVISIONS TO CHAPTER 5.0--DESCRIPTION AND EVALUATION OF ALTERNATIVES	III-1
B. REVISIONS TO CHAPTER 6.0--ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES	III-3
C. REVISIONS TO CHAPTER 9.0--BIBLIOGRAPHY	III-19
D. REVISIONS TO APPENDIX A--SECTION 404(b)(1) ANALYSIS	III-20
E. REVISIONS TO APPENDIX B--MEMORANDUM OF AGREEMENT	III-20
F. REVISIONS TO APPENDIX C--PRELIMINARY NPDES PERMIT	III-20
PART IV. PREFERRED ALTERNATIVES	IV-1
A. APPLICANT PREFERRED ALTERNATIVE	IV-1
B. MOST ENVIRONMENTALLY SOUND ALTERNATIVE	IV-1
C. EPA PROPOSED ACTION	IV-1
APPENDIX A--DRAFT NPDES PERMIT	A-1
APPENDIX B--ADDITIONAL INFORMATION	B-1

LIST OF TABLES

Table		Page
TABLE I-1	ENVIRONMENTAL CONSEQUENCES	I-6
TABLE I-2	ACRES OF VEGETATION TYPE TO BE DISTURBED	I-9
TABLE III-1	VEGETATION COMMUNITIES AND LAND USE MARTIN LAKE "D" AREA PROJECT SITE	III-21
TABLE III-2	SUMMARY OF LIGNITE AND ASH CHARACTERISTICS	III-22

LIST OF FIGURES

Figure		Page
FIG. I-1	PROJECT LOCATION MAP	I-10
FIG. I-2A	MINING SEQUENCE MAP	I-11
FIG. I-2B	MINING SEQUENCE MAP	I-12
FIG. III-1	LOADING STATION OPERATION	III-23
FIG. III-2	SURFACE WATER MONITORING SITES	III-24
FIG. III-3	PROJECTS CONSIDERED IN CUMULATIVE IMPACTS ANALYSIS	III-25
FIG. III-4	PROJECT LOCATION AND NEARBY PROJECTS	III-26

PART I. SUMMARY OF DRAFT AND FINAL EIS

A. PURPOSE AND NEED

This Environmental Impact Statement (EIS) has been prepared to assess the impacts from the Texas Utilities Generating Company's proposed Martin Lake "D" Area lignite surface mine and facilities construction and operation, and to disclose these impacts to the public and to decision makers. EPA must consider public input on environmental impacts before making a decision on the wastewater discharge permit requested by TUGCO. EPA preparation is in accordance with the Clean Water Act and the National Environmental Policy Act.

The objective of TUGCO is to surface mine and transport about 102 million tons of lignite to the 2250-MW three-unit Martin Lake Steam Electric Station (MLSES), to be burned as fuel. An 11.5-mile railroad and 11.5-mile power transmission line would be constructed and utilized, connecting the mine and MLSES.

B. ALTERNATIVES AND ENVIRONMENTAL CONSEQUENCES

EPA Permitting Alternatives. Alternatives available to EPA are: to issue a wastewater discharge permit for the project as proposed; issue a permit for a project with certain conditions to minimize or mitigate adverse impacts; or, to deny the issuance of a permit.

No Action Alternative. The "no action" alternative, i.e., to not develop this project, could be implemented by the permit applicant or as a result of an EPA decision to deny a permit.

Applicant Preferred Alternative. The total project covers about 25,350 acres which includes 273 acres for a railroad corridor and 114 acres for a transmission line. The extent of the lignite reserves within the 24,963 acre mine boundary covers about 16,600 acres. About 102 million tons of lignite would be removed from approximately 15,000 acres over a 30-year period. The general sequence of proposed mining is shown in Fig. I-2, which also shows generalized mining blocks. The actual areas to be mined occur within the blocks shown but are smaller.

Recently (September 1983), a TUGCO electric power transmission line has been proposed to be constructed on the previously proposed SWEPCO transmission line relocation corridor. Therefore, two separate 138 kv lines would be constructed on one corridor of 170-foot width (see Fig. I-2B). This TUGCO line and the TUGCO line extending from the MLSES into the southeastern part of the mine area would carry power for mine facilities and certain equipment. Clearing of vegetation and land leveling would occur on both transmission line corridors and the railroad corridor prior to construction of those facilities and before any mining occurs.

Prior to mining, the land would be cleared of all vegetation. Surface-water control facilities such as stream diversions, catchment basins, overland flow-interceptor channels and sedimentation ponds would be constructed. A 2,000-foot section of Dry Creek would be diverted for two years for mining of lignite under the present channel. Such a diversion requires a variance from RRC surface mining regulations that require avoidance of a stream by a specific buffer zone. Overburden removal would be performed primarily using electric draglines. The overburden handling method offered by TUGCO for this NPDES permit is the mixed spoil alternative. TUGCO proposes to

reclaim and revegetate with mixed spoil. Overburden removal is scheduled to begin with one 75-cubic-yard dragline in May 1985, a second dragline in operation by April 1987, and a third in 1994. Overburden stripping pits would be 120 feet wide and vary from 3,000 to 10,000 feet long. Mining depths would vary to 150 feet. Scrapers, dozers, front-end loaders, graders, etc., would be used in overburden handling and lignite loading.

Trucks would haul the lignite from the pits to the train loading station over a network of haul roads. Once loaded into rail cars, the lignite would be transported to the MLSES by an electric train (Fig. I-1). The train loading station would be located in conjunction with other permanent mine facilities which include an office, shop and warehouse building, lignite storage area, service area, sewage treatment plant, wastewater treatment pond, dragline erection site, and fuel storage facilities (Fig. III-1 of Final EIS and Fig. 5-5, DEIS). The spoil surface would be recontoured to approximately premining conditions and prepared for revegetation with fertilizers and lime. Final reclamation would be to a vegetation cover of woodlands and managed pasture. The estimated proportions are 10 to 50 percent woodlands and 50 to 90 percent pasture. Generally, reclamation of mined lands is proposed by TUGCO to be at a level to meet surface mining regulations. The RRC regulations require a topsoiling procedure, or a method shown to meet the surface mining regulations which require productivity (yield) on reclaimed land to be at a level "equal to" or "better than" productivity on nearby unmined land, or, according to technical standards. "Equal to" is generally defined as 90 percent of the existing productivity at a 90-percent confidence level (or 80 percent on shrub lands) based on the same level of management (see Draft EIS, Sec. 6.2.3.4).

Air pollutant particulate control measures proposed include vehicular speed control (on roads), water spray (on roads and at the crusher), and enclosure at the conveyor and rail car loading area. Gaseous and particulate air emissions from lignite burning would be minimized by measures taken at the power plant. Lignite burning process wastewaters would be treated in ponds before being discharged to Martin Lake or injected underground.

On-site sanitary waste control is proposed by package sewage treatment plant to secondary treatment level with effluent discharge to Dry Creek (see Fig. III-1). Mining water pollution control is proposed by collection and settling in sedimentation ponds. Polyelectrolyte would be utilized for lignite fines removal; pH control would be by lime addition. Discharges to streams are proposed based on new source alkaline mine drainage category standards for coal mining.

Environmental Consequences. The major environmental consequences of the applicant's proposed project and the no action alternatives are shown on Table I-1. Acreages of various vegetation types to be disturbed by mining and construction activities are shown in Table I-2.

It should be noted that if the no action alternative is implemented, impacts to the environment (including soils, vegetation, topography, and air and water quality) will have occurred from early construction of support facilities. The affected areas could be recontoured, topsoil replaced and revegetated, but wildlife habitat would require a long period for return to predisturbance status. See Appendix B for correspondence and EPA requirements regarding construction prior to completion of the environmental review.

C.

MAJOR ISSUES AND/OR CONCERNS

Socioeconomic Aspects. A major beneficial economic impact will occur from the mine project for: the applicant, various individuals who sell or lease land and who own mineral rights or obtain jobs, businesses, and governmental entities. A concern is that persons within the affected area (who may choose not to sell or lease lands for mining or who have interests where lignite does not occur) should not be inconvenienced or lose any service if this project proceeds.

Surface Water Quality. A major concern exists regarding potential adverse impacts on the receiving waters used as a public raw water supply, as well as on the water uses for propagation of fish and wildlife and for noncontact recreation. A need for establishing a complete baseline of existing water quality conditions was determined particularly as some discrepancies between data exist and some parameters (mercury, pH, phenols, ammonia, total dissolved solids, total suspended solids, alkalinity and turbidity) in existing waters appear to exceed water quality standards set by Texas Department of Water Resources, U.S. Public Health Service and EPA. In addition, effects of the project must be assessed as to whether impacts on stream water quality standards occur. Degradation of surface water quality may occur on the long term, after release of reclaimed mined lands from surface mining bonds, if the same levels of land treatment and management utilized to obtain bond release is not maintained.

Stream Diversion and Wetlands. Potential for loss of water quality function of wetlands upstream to Lake Cherokee (public raw water supply) by mining activities (including transmission line relocation and haul road construction) is of concern. Where mining occurs using the mixed spoil alternative for overburden handling, increased potential for increased acidity, and release of metals is of concern. No specific plans or commitment for mining or construction procedures are available to determine actual short term impacts, or whether fill from discharge will be maintained to prevent erosion. There is no specific plan for restoration of wetland vegetation. Site specific data on spoil is needed to determine whether discharge in these sensitive areas will consist of material free from toxic pollutants (in other than trace quantities). Approximately 10 percent of wetland acreage in the Area "D" project boundary would be directly affected--however, if mining dewatering caused reduced base flow in surface water, possible cumulative effects, including desiccation, would occur on a larger acreage.

Mine Spoil Reclamation. Lack of a specific plan regarding spoil handling and reclamation exists. TUGCO has elected to submit an application for mining to the Railroad Commission of Texas (state agency delegated with responsibility to permit mines and enforce federal surface mining regulations) later. Therefore, review of the justification for the use of mixed spoil, which is in variance to surface mining regulations, has not occurred by RRC. Justification would include site specific greenhouse studies and field studies; these are not now available for disclosure for independent review. The proposed mixed spoil alternative has the highest potential for acid forming materials and leached metals to occur at the surface initially and over the long term. This would create hot spots, and then, loss of vegetation, erosion, and the potential for adverse water quality impacts from sediment, pH and leached metals. On a relatively short-term basis, RRC regulations require inspection and soil monitoring of reclaimed land during a five-year bond period to identify and take mitigative action if such impacts occur. Major concern exists with effects over the longer term where measures necessary to obtain bond release may not be maintained. Additionally, some 5,232 acres of prime farmland soils will be lost.

EPA has requested TUGCO consider entering into a Cooperative Agreement with the Rusk County Soil and Water Conservation District. EPA believes that better reclamation management programs can be developed when fully coordinated with the local soil and water conservation districts based on formal agreement. While TUGCO has indicated an intent to enter into such an agreement, to date an instrument has not been signed. Therefore, EPA has reservations regarding plan development. The applicant's general revegetation plan, consisting of 10 to 50 percent reforestation and 50 to 90 percent primarily coastal bermuda pasture, results largely in departure from native vegetation and wildlife habitat. A loss of large acreage of economically significantly forestland is expected. However, it is noted that within the last year the applicant has increased reforestation acreage at Martin Lake "A", "B", & "C" areas to approximately 13 percent of the total area disturbed to date.

Groundwater. Appropriate ground-water monitoring in downdip areas as well as in reclaimed areas will be necessary to adequately determine mining effects. The area of influence on groundwater under water table and artesian conditions, due to mining, is expected to be significantly larger than shown in the Draft EIS. Monitoring should be adequate to plan for modifications of surface mining activities, if necessary, to restore recharge capacity, minimize disturbance to the hydrologic balance, and reduce degradation of water quality. Piezometers should be installed in the mined/recontoured areas to monitor recharge and water quality. Pumping and observation well systems should be installed so that any connections and effects between the aquifers above and below the lignite are determined and so that effects downdip in the upper Carrizo-Wilcox aquifer can be accurately predicted. Potential measures to rebuild the aquifer and restore the subsurface hydrology should be considered initially.

Pattern of Land Ownership. Concern for a change in the pattern of area land ownership has been raised. Ownership of a large acreage by the utility company or the possibility of sale, of all acreage owned, to one person is a possibility and would result in permanent relocation of numerous families. A decision to sell or lease mine area lands, to the private utility company, or to do neither, is a matter for present landowners. A concern of EPA is that individuals make decisions based on the lease stipulations they may require, knowledge of state-of-the-art reclamation that can be carried out, what the laws require of surface mining operations, how enforcement is carried out, and knowledge that environmental tradeoffs are necessary when an area is surface mined.

Cultural Resources. Known significant cultural resources exist in the project area and other significant sites are expected to be discovered. Compliance by TUGCO with the Memorandum of Agreement on Cultural Resources between EPA, Texas State Historic Preservation Officer and the Advisory Council on Historic Preservation, is necessary to reduce impacts.

D. MAJOR CONCLUSIONS

The permit action alternatives evaluated by EPA included: (1) the issuance of a new source NPDES permit as proposed by the applicant; (2) the issuance of an NPDES permit with conditions; and (3) denial of an NPDES permit.

EPA has determined its preferred action to be issuance of a new source NPDES permit with limits for acid mine drainage rather than for alkaline mine drainage as proposed by the applicant, and with additional conditions. The conditions include: (1) that TUGCO provide quarterly monitoring and reporting of additional water quality parameters; (2) TUGCO compliance with stipulations of the Memorandum of Agreement between EPA, the Texas State Historic Preservation Officer, and the national Advisory Council

on Historic Preservation for cultural resources protection; and (3) that there be no discharge of dredge and fill material into any wetlands designated by the Corps of Engineers unless TUGCO obtains a Clean Water Act, Section 404 authorization from the Corps of Engineers for each discharge, based on site specific plans.

TABLE I-1
ENVIRONMENTAL CONSEQUENCES

Factor	Project Alternatives	No Action Alternative
Geology and Topography	Irreversible loss of bedded geologic strata; minimal long-term adverse impacts to topography; short-term adverse impacts to oil and gas production; irreversible loss of clay and gravel deposits; 85 percent recovery of lignite deposits; no significant cumulative effects.	No adverse impacts to geologic structure or topography.
Soils	See Table 6-1; erosion potential would be moderate, overburden handling alternatives all have good potential for success under high-level management; alternative I has highest potential for acid-forming material and release of heavy metals at the surface; cumulative impact of removing about 5,000 acres of prime farmland soils from potential production.	Minor continued erosion from present levels of agriculture.
Ground Water	More than 142 wells would likely be lost or affected by mining; dewatering would cause long-term adverse impacts to shallow ground-water system; recharge and restoration of system would likely require more than 23 years; dewatering by pumping and mining would lower water levels under artesian conditions northwest of the mine area; springs and seeps may be irretrievably lost but others may form over the long term; unknown level of degradation to ground-water quality from increased acidity and dissolved solids; unknown level of cumulative effects.	None.
Surface Water	Preliminary assessment is that peak flows would be decreased slightly; runoff volume not significantly affected; no significant reduction in firm yield of Lake Cherokee. Dewatering would decrease baseflow in streams; could dry-up upper sections of tributaries but should not significantly affect Mill or Tiawichi creeks; potential for long- and short-term adverse impacts, mainly from suspended solids (sediment), to water quality of streams; monitoring necessary to determine level of adverse impacts to Lake Cherokee and streams, as well as any cumulative effects.	None.
Wetlands and Flood Plains	About 84 acres (10 percent) of wetlands would be adversely affected by mining; wetlands or riparian vegetation could be adversely affected in specific areas by dewatering effects on seeps, springs and upper sections of tributaries; minor adverse cumulative impacts to water quality and important wildlife habitat by reduction of wetland acreage.	Continued increase in acreage of bottomland forests despite clearing associated with mineral production, agriculture and timber production; minor adverse cumulative impacts by reduction of wetland acreage.

TABLE I-1 (Cont'd)

Factor	Project Alternatives	No Action Alternative
Terrestrial Biology	Long-term adverse impacts related to removal of upland and bottomland forest acreage with concomitant reduction of wildlife habitat; adverse cumulative impacts associated with removal of wildlife habitat.	Continued adverse impacts from clearing upland forests and reducing wildlife habitat; minor cumulative adverse impacts by reduction of upland forest acreage.
Aquatic Biology	Minor short-term adverse impacts associated with construction and operation activities.	None.
Threatened or Endangered Species	None.	None.
Archaeological and Historical Resources	Adverse effect has been determined on Walling Cabin but minimized by relocation to Henderson; determination of effect on known sites and sites yet to be discovered would be conducted at appropriate time; direct and/or indirect impacts on sites are adverse to the resource; mitigation measures would be beneficial to state of knowledge; adverse impacts would be minimized and beneficial impacts maximized by compliance with the Memorandum of Agreement which requires identification and mitigation of cultural resources sites.	Minor adverse impacts caused by local collectors, agricultural or other activities, and further natural weathering.
Air and Sound Quality	Minor adverse impacts to air quality from fugitive emissions and to sound quality from construction and operational activities. Long-term adverse secondary impacts would result from operation of the MLSES.	No action alternative would not avoid long-term adverse secondary impacts from continued operation of the MLSES.
Land Use and Recreation	Long-term impacts would result from the reduction in the amount of forested land on the site and an increase in the amount of managed pasture. Minor, short-term adverse impacts to hunting since TUGCO restricts access to its land and long-term impacts from reduced forested land.	Long-term decreases in agriculture land and upland forest with increases in pasture and residential properties; minor adverse impacts to hunting with reduced game habitat (upland forest).
Population	Short-term increases due to construction and long-term due to operation of the mine. Additional increases from secondary work force. Average age of in-migrating population would be less than existing population. No adverse impacts to area schools.	Long-term minor increases following past growth patterns.
Economy	Both short-term and long-term beneficial impacts would result directly from the project (wages, land purchases, royalties and capital expenditures); secondary beneficial impacts also would result from stimulation to the local economy.	Past economic patterns would continue.

TABLE I-I (Concluded)

Factor	Project Alternatives	No Action Alternative
Housing	Minor adverse impact on availability of housing from increased needs of work force; long-term beneficial impacts could occur to housing construction industry.	None.
Community Services	Short-term adverse impacts could occur from stress on water treatment and storage capacity and sewage treatment facilities in some communities but would be minor since increased need would occur over a several year period; long-term impacts would be avoided because of increased services in response to needs; long-term adverse cumulative impacts could result in combination with several other proposed projects.	None.
Transportation	Significant increase in deterioration of area roads due to heavy-load truck hauling; no significant short-term or long-term adverse impacts to transportation systems would result because of minor traffic increases due to workers and induced population increase.	Road deterioration would occur at present rate.
Community Finances	Short-term and long-term beneficial impacts to municipal, county and state finances associated with tax revenues; long-term beneficial cumulative impacts in combination with other proposed projects.	None.

TABLE I-2
ACRES OF VEGETATION TYPE TO BE DISTURBED

Activity	Bottomland Hardwood Forest/ Hydric Communities			Pastureland	Upland Pine/ Hardwood and Regenerative Forest
	Wetlands ¹	Nonwetlands			
<u>Within Mine Boundary</u>					
General Construction ²	21	+14.4	+75.9		+82.6
Dry Creek Diversion	21	0.2	6.1		3.7
Mining ³	42	?	about 9,500		about 4,000
Mine Facilities Construction ⁴	0	0	126		55
<u>Between Mine and MLSES</u>					
Railroad Line	0				
Transmission Line ⁵	0	11.0	142		120
		13.0	71.7		13.7

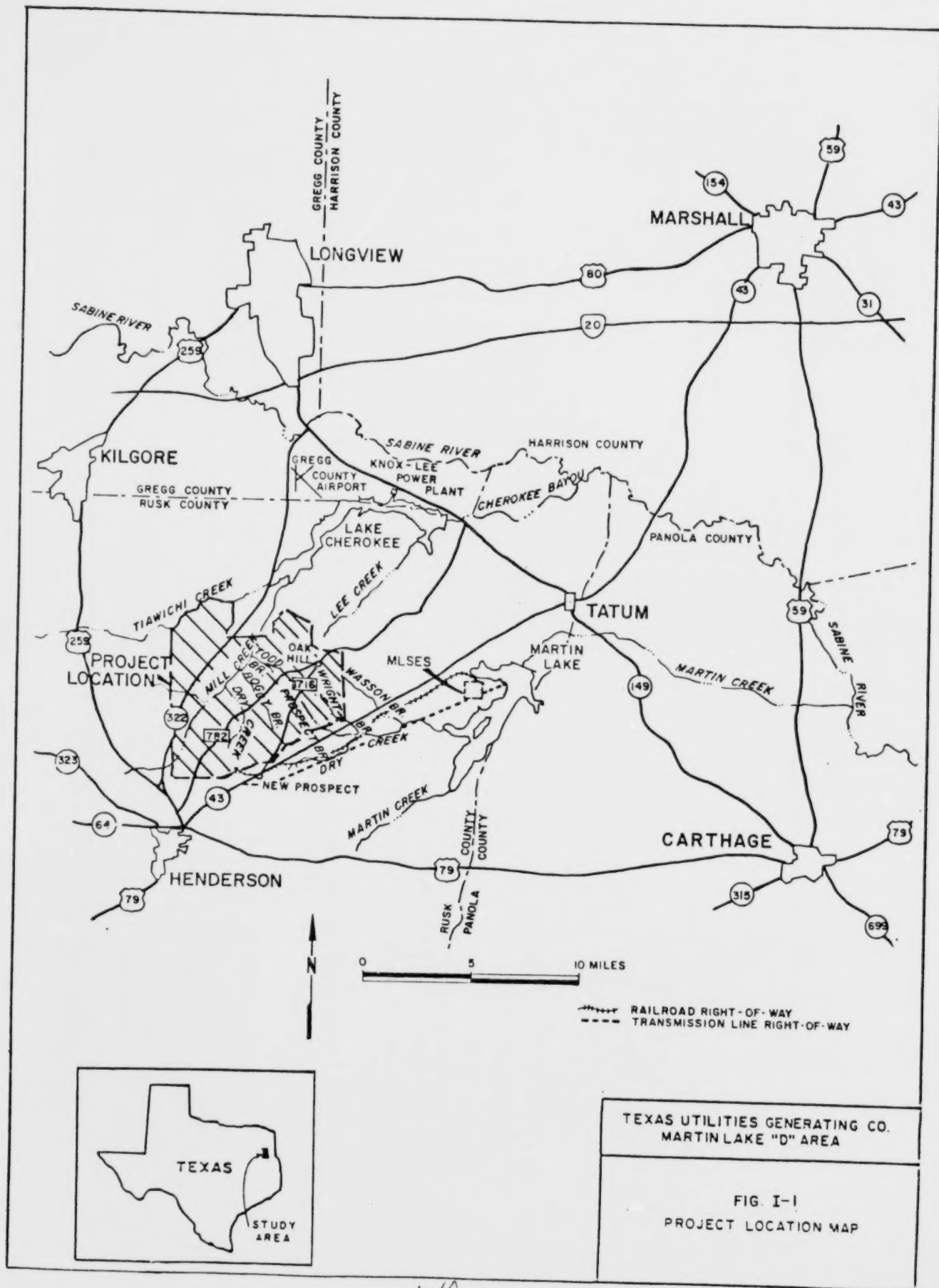
¹Wetlands as defined by U.S. Corps of Engineers within the area of jurisdiction under Section 404 of the Clean Water Act.

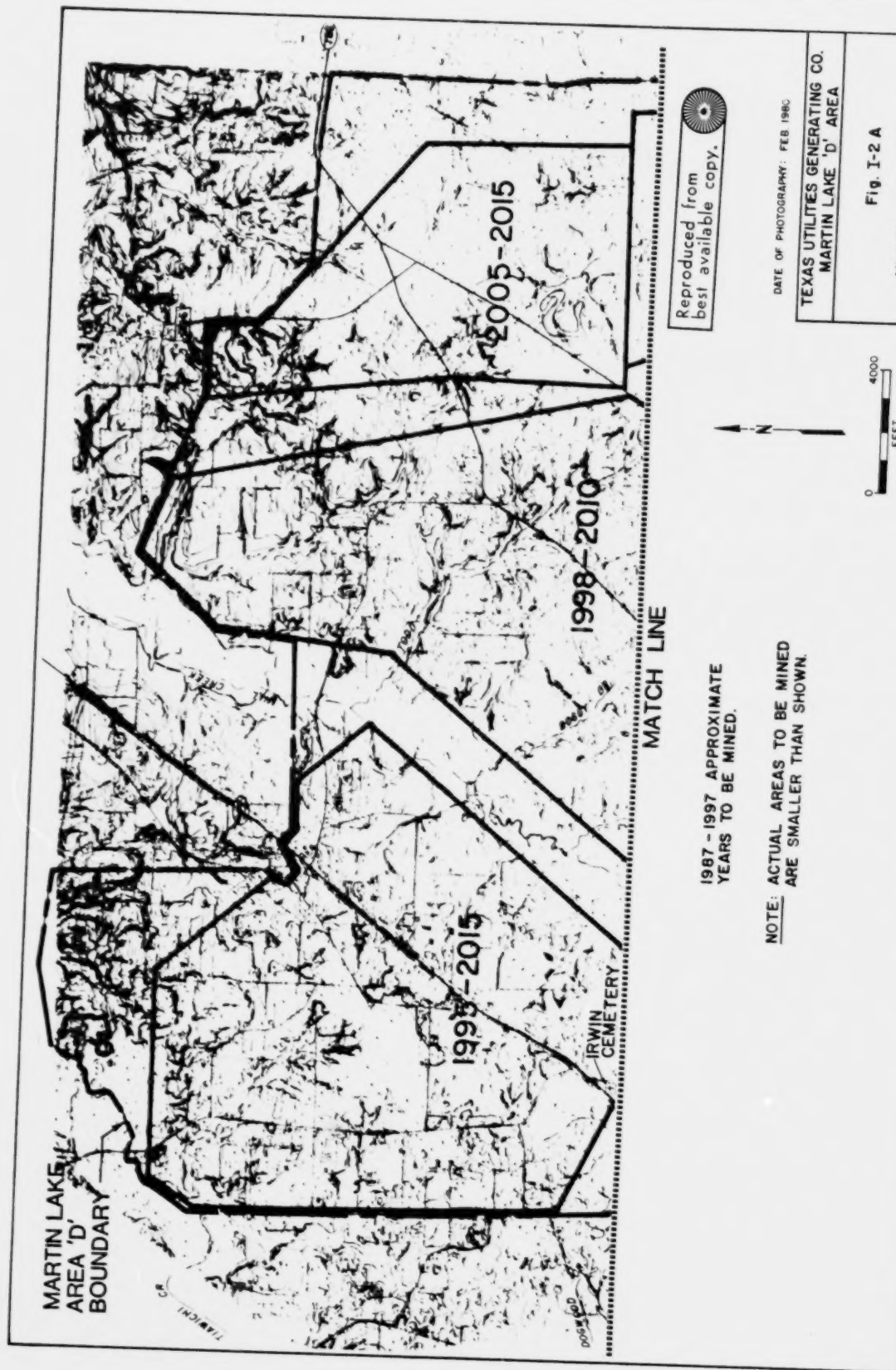
²General construction includes haul roads, utility line relocations, and proposed TUGCO 138 kv transmission line. Acreage figures for most vegetation types cannot be absolutely determined at this time and are indicated by, +X acres.

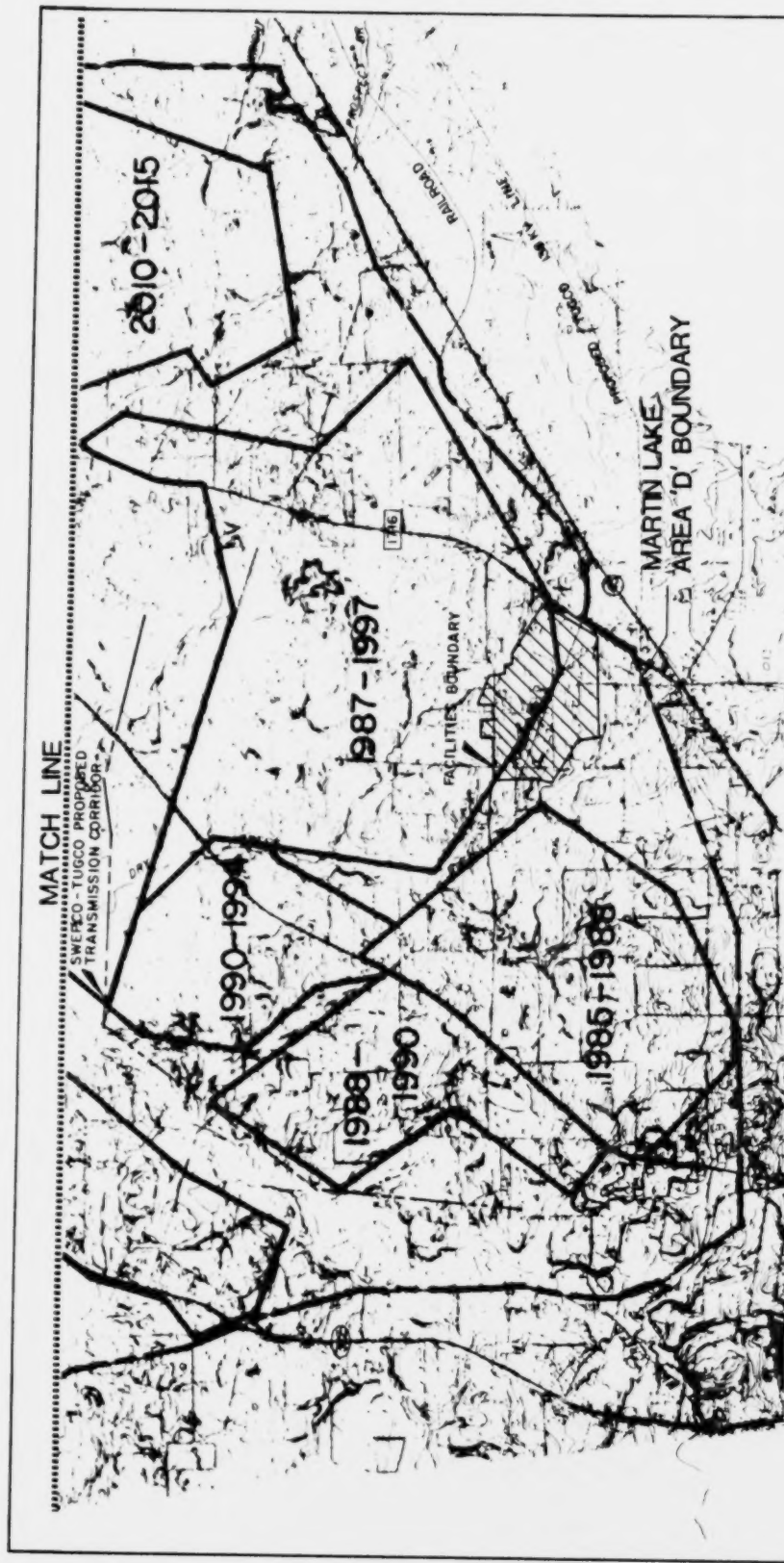
³Mining would disturb about 16,000 acres during the life of the project. The acreage of bottomland nonwetlands would be very small since little mining would occur in flood plains. The acreage disturbed would be primarily pastureland and upland/regenerative forest. The acreages listed are based upon acreages within mine blocks (17,916 acres) minus almost 2,000 acres not to be disturbed.

⁴Mine facilities would occupy about 140 acres but construction would disturb about 210 acres including those listed above, plus about 21 acres of pine plantation and 8 acres of cropland.

⁵Transmission line construction would disturb a total of about 114 acres including the above acreages and about 15.6 acres of other vegetation types.





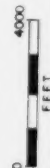


Reproduced from
best available copy.

1987 - 1997 APPROXIMATE
YEARS TO BE MINED.

NOTE: ACTUAL AREAS TO BE MINED
ARE SMALLER THAN SHOWN.

--- PROPOSED SWERCO TRANSMISSION
LINE RELOCATION AND TUGCO
TRANSMISSION LINE CORRIDOR



DATE OF PHOTOGRAPHY: FEB 1980

TEXAS UTILITIES GENERATING CO.
MARTIN LAKE 'D' AREA

Fig. I-2 B

MINING SEQUENCE MAP

PART II CONSULTATION AND COORDINATION

This section of the FEIS summarizes the consultation and coordination activities with federal, state and local agencies and the public which have occurred since the Notice of Intent for this project was published. The first part (II.A.) discusses activities which occurred prior to the release of the DEIS. The second part (II.B.) discusses the publication of the DEIS and the Public Hearing and the last part (II.C.) describes activities associated with this FEIS and, finally, the Record of Decision.

A. ACTIVITIES PRIOR TO THE DEIS

A notice of intent to prepare an EIS on the issuance of an NPDES permit for the proposed Martin Lake "D" Area project was issued by EPA, Region 6, on December 18, 1981. Federal, state and local agencies, and the public were invited to participate in the process for determining the scope of issues to be addressed and for identifying the significant issues related to the proposed action. A public meeting (Scoping Meeting) to receive input was held on January 28, 1982, at the Rusk County Courthouse in Henderson, Texas. The Scoping Meeting was advertised in area newspapers and on radio. The meeting was attended by over 250 representatives of federal, state and local agencies and general public.

The major issues and concerns identified by EPA and expressed by federal, state and local agencies, organization, and individuals during the scoping process included:

- (1) Potential for contamination of major aquifers;
- (2) Successful reclamation in terms of surface soil suitability and revegetation efforts;
- (3) Impacts on surface-water quantity and quality;
- (4) Impacts on and protection of wetlands and riparian areas;
- (5) Loss of wildlife habitat;
- (6) Postmining land use and reclamation impacts on wildlife habitat;
- (7) Assessment of the quality of fisheries habitat;
- (8) Consideration of the impacts on cultural resources;
- (9) Land use changes due to reclamation;
- (10) Socioeconomic impacts on communities;
- (11) The effects of the work force on area schools; and
- (12) Consideration of transportation systems and traffic increases.

These 12 major issues and concerns, and others, were used to develop the DEIS. A Preliminary Draft Environmental Impact Statement (PDEIS) was sent to cooperating federal and state agencies for review and comment concurrent with EPA review. Eight (8) agencies responded with written comments to be used in the production of the DEIS. Agencies that commented were: U.S. Fish and Wildlife Service; Office of Surface Mining; Corps of Engineers; Sabine River Authority; Texas Department of Water Resources; Texas Parks and Wildlife Department; U.S. Soil Conservation Service; and Texas Historical Commission. The agencies' major comments are reproduced below. Based upon these, the Draft EIS was prepared. EPA can be contacted for responses to specific comments.

1. Section 6.2.3.6. Reclamation Success and Cost. This section of the DEIS compares the various engineering costs associated with overburden and topsoil handling for the four reclamation alternatives under consideration. It is assumed that post-reclamation management expenses would be the same for all alternatives, regardless of whether topsoil is replaced or not. We believe this is a debatable assumption, when one considers the fact that additional quantities of lime, fertilizer, and plant materials will be required to establish successful vegetation without the benefit of topsoil. These considerations should be factored into the cost analysis of the reclamation alternatives. Admittedly, these concerns may be minor costs compared to the overall expense of overburden handling; nevertheless, the comparative costs of revegetation practices should be displayed to lend credence to the conclusions reached in the DEIS.

There are two other considerations which we think should be mentioned regarding this type of reclamation analysis. First, there is no detailed comparison on the productivity of native soils versus mixed soils. It is very likely that native soils, given the same amount of fertilizer and maintenance care as reclaimed mine lands, would have a greater productivity. Secondly, although it has been well documented that mined lands can have a high productivity when actively managed, what might happen to the land following bond release and return to the original landowner? If the landowner does not utilize comparable, intensive management practices as the mining company, the land might deteriorate faster than native soils due to a lack of fertility, leaching of toxic materials, etc.

Section 6.5.1.1. Wetland Communities. According to the Corps of Engineers' April 1982 wetlands determination for the Martin Lake "D" Area, there are about 1359 acres of regulatory wetlands on the project study area (Appendix D). However, the DEIS quotes a figure of 850 acres. This discrepancy should be rectified. Also, are the 50 acres of regulatory wetlands to be impacted by project operations for the first 5-yr. mining increment or the life-of-the-project? This clarification, plus the status of the Corps' Section 404 permitting actions, should be described in this section. Please note that we have requested the Corps to re-evaluate the extent of its regulatory jurisdiction on project area wetlands, based upon new hydrologic data available since 1977. A copy of our request has been forwarded to you for reference.

3. Section 6.6.3.1 Vegetation. The statement that "since the pre-mining clearing will proceed incrementally over a span of 30 years with concurrent reclamation, the associated impacts are considered to be short-term" is both erroneous and misleading. Regardless of whether the mining area is cleared incrementally or not, the ultimate result will be 16,600 acres of land extremely low in wildlife habitat quality under the mining company's proposed revegetation scheme (i.e. pastureland). Due to the length of time required for mixed forest communities to regenerate through the successional process, impacts associated with mining and reclamation activities must be considered long term as discussed on pp.6-87 through 6-88. The only short term impacts associated with vegetation clearing would be erosion, water quality, etc. and not the re-establishment of diverse vegetation communities.

4. Section 6.6.3.2. Wildlife. On p.6-90 it is stated that "reclamation activities will follow mining and will mitigate the short-term adverse impacts on wildlife population reduction through re-establishment of a diversity of vegetation (and thus, habitat) types". This is in direct conflict with the statement on p.5-35 that the thrust of reclamation efforts will be to re-establish pastureland. Pasturelands are not diverse plant communities which lend themselves to mitigating wildlife habitat losses. The planting of woody trees and shrubs will provide some diversity to pasturelands, but not the quality or quantity of vegetation required to prevent long-term, adverse wildlife impacts. This section should describe in more detail the measures which will be implemented on site to restore impacted habitats (i.e., the best technology currently available requirements in the surface mining regulations).

5. Section 6.11.2. Impacts of No Action Alternative. Based on U.S.D.A. statistics, it is suggested that land used for farms and pastures in the study area will continue to decline. However, on pp.6-71 and 6-85, respectively, it is indicated that wetlands and terrestrial vegetation will continue to decline in acreage through their conversion to farmland or pasture. This is an apparent discrepancy on land use trends which should be clarified in the DEIS.

6. Appendix E. Threatened or Endangered Species Biological Assessment. If not already accomplished, we suggest that this Biological Assessment be forwarded to our Regional Director (Attn: Endangered Species Coordinator) in Albuquerque for official review and comments.

In summary, our greatest concern on this project involves the necessity for protecting bottomland hardwoods and wetlands. These are the most productive and threatened wildlife habitats on site. We believe the DEIS should spell out in more detail what mitigation features and regulatory actions will be undertaken to ensure the protection of these important natural resources during issuance of the NPDES permits.

Soils

1. The footnote on page 1-4 states that present topsoils are fine sandy loam. However, topsoil as defined in the draft EIS includes a mixture of A, B and sometimes C horizons. Such a mixture will be heavier than fine sandy loam in most cases.
2. An undiscussed alternative, where mining would affect the luvisol type, would be to save this fine sandy loam material since it would make excellent rooting medium.
3. The chemical and physical analyses of the soils are based on mixed overburden with no cores to identify potential toxic zones. Furthermore, there is no justification for relying on only five cores for the entire 25,000 acres for overburden analysis.

Fish and Wildlife Resources

1. It is difficult to assess impacts on wildlife without knowing the post-mining ratio of pasture to woodland. Until this ratio is finalized, it is impossible to estimate the loss of woodland dependent species.
2. Table 1-2, page 1-9 states that no impacts will occur to recreation yet page 6-8 lists several bird and mammal species that are hunted in the area. Since habitat for these species will be reduced there will undoubtedly be a reduction in hunting opportunities.
3. On page 5-24 it is stated that only one stream will be diverted yet on page 5-29 it is stated that diversions and rerouting of small streams will be necessary. This contradiction should be resolved.
4. It should be mentioned on page 6-82 that in addition to preying on destructive insects and rodents, herpetiles are themselves prey for some birds, mammals and other herpetiles.
5. Appendix E contains a "no effect" assessment of project impacts on threatened and endangered species. The final EIS should contain the U.S. Fish and Wildlife Service concurrence or disagreement with this determination.

Socio-economics

1. Table 6-24 should breakdown the population into construction and operation categories.

2. It is stated on page 6-131 that project workers will earn an average of \$25,000 annually while page 6-140 uses an average of \$22,000. This difference should be explained.
3. An explanation is needed as to why "materials" comprise nearly one-third of the annual operation and maintenance cost shown on page 6-144.
4. Section 6.15.3.1 refers to four other mine and/or power plant projects in the region during the same time period yet there is not even a brief narrative on these projects. A tabulation of employment, population impacts, residential impacts, school attendance, etc. would be helpful in assessing the cumulative impacts of these projects.
5. Considering the several projects proposed, it is conceivable that the City of Henderson may attract the new residents discussed on page 6-130. If Henderson is selected over Longview, the implications would certainly be significant and deserve discussion.
6. Although children will be included in the peak population influx of 892 persons, Section 6.15.1.6 contains no specific enrollment forecasts for schools in the project area.
7. There is no mention of any impact assistance revenue for local governments which are affected by this project. Section 6.17.5 should explain how the expected 1.2 million dollars in property taxes will be distributed among local jurisdictions.

Cultural Resources

1. Further discussion of cultural resource work conducted both in and around the project area is needed.
2. There should be estimations of numbers, kinds and locations of sites that might be expected to occur within the project boundaries.
3. Top priority should be directed toward developing identified cultural resources, not conducting inventories on lands that may be impacted. Early, detailed planning and intergovernmental-company cooperation ensures that protection of cultural resources will not delay proposed project activities.

Hydrology

1. On page 3-7 some statement is needed concerning the change in elevation of the watershed in pre-mining versus post-mining configurations and the associated changes, if any, in the time of concentration.
2. The differences between dimensionless hydrographs should be discussed. Additional support should be provided as to the reasons the SCS personnel believe the Mockus hydrograph will represent an average dimensionless unit hydrograph for the sub-basin.

Geology

1. The chemical properties of the overburden and its method of replacement could have significant effects on the potential for contamination of major aquifers. There should be additional chemical and physical data presented in the DEIS perhaps as an appendix.

Transportation

1. The use of diesel versus electricity was discussed in the haul train alternative but not in the discussion of trucks versus conveyors for within mine transportation.
2. In discussion of the railroad, it is stated that the railroad "can be designed with no at-grade crossings so local traffic will be unaffected." It is unclear if the railroad will or can be so designed.

Vegetation

1. Page 1-31 refers to "spontaneous revegetation". The phrase "natural invasion" should be substituted.
2. The discussion of impacts pages 1-8, 1-9 indicate a plan to change the ratio of woodland to pasture to a new unknown ratio. It is impossible to assess impacts of such a change without knowing the new ratio. This must be addressed.
3. Support is needed for the assertion that restoration of woody species would be difficult.
4. The statement is made on page 5-35 that the predominant land use is pastureland yet other statements indicate 50 percent pasture and 50 percent woodland. This contradiction should be resolved.
5. On page 6-72 species diversity correlation with habitat variability is only true for species composition along environmental gradients, not for intra-community diversity.

The following errors in the document should be examined.

Section 3.2 5th line, the statement "the determination of wetlands by" should read "the determination of the Area of Jurisdiction by"

5.1.7-1, Line 1 The term wetlands seems to be an error.

Figure 5-4 Details on this map are extremely difficult to distinguish, and in its present form the map serves no useful purpose.

6.6.1.2.1 Page 6-81, 1st full paragraph, 10th line, the references Kendeligh and Faurer (1981) and Hickson and Degelquist (1979) are not listed in the bibliography.

Page 6-122 2nd paragraph. This statement uses a 1978 average value for farmland in the county. These figures may not be realistic due to the inflation rates of the last four years.

The following paragraphs are in regard to content of the document.

In Section 5.4 it states "the USCE may require Section 10/404 permits for certain project activities". This indicates some confusion as to which activities require U.S. Army Corps of Engineers (COE) authorization. Furthermore, the term "Section 10/404 permit" is incorrect since this refers to two statutes and separate authorizations. The discharge of dredged and fill material into streams and adjacent wetlands during project activities will require authorization under Section 404 of the Clean Water Act. Since no navigable waters of the United States exist within the project boundaries the project should not affect these waters, therefore authorization under Section 10 of the River and Harbor Act of 1899 is not required. Also, in this section the term "USCE Environmental Section" should read "USCE Fort Worth District Permits Section".

Section 6.5.1.1 2nd paragraph 8th line: Two citations USCOR (1978) and Whitlow and Harris (1979) are not the only references examined for wetland plant tolerances, nor are they necessarily representative. These citations should be removed. Furthermore, the citation USCOR (1978) is not particularly suitable for the Fort Worth District area. At the top of page 6-67 the FIS states "The general consensus among the regulatory agencies is that the definition of 404 wetlands should also include annual inundation sufficient to saturate the soil throughout the root zone for 30 days during the growing season". This is not the general consensus of the regulatory agencies, and certainly not the consensus of the Corps of Engineers. This statement should be deleted.

The first paragraph page 6-67 states that 327 acres of "wetland communities" exist in the project area and seems to imply that those wetlands defined by COE are something other than "wetland communities". Since a definition of wetland communities was not presented, the purpose of this distinction from those wetlands under COE jurisdiction is unclear. The wetland definition in the COE regulations and quoted in the FIS is more conservative than other commonly

In general, the EIS appears to take a stance of advocacy rather than objectivity in the discussion of alternatives for overburden handling procedures. The EIS fails to document the differences other than engineering. The EIS discusses alternatives based on the literature, should include short and long term productivity of the reclaimed land, revegetated difference, and fertilization differences of each alternative. In section 5.1.4.4, alternative one is chosen based solely on engineering costs to the company. Additional factors such as costs of revegetation, fertilizer cost for initial reclamation, long term fertilizer costs to the landowner, long term loss of agricultural productivity for the landowner, and wildlife habitat quality should be included. These factors should also be compared to the no action alternative.

Comments on the Cultural Resource Portions of the PDREIS.

1. The permit area includes the mine area, railroad spur, transmission lines, haul and access roads, highway relocations, stream diversions, mine service facilities, the cooling pond (6-50 shows it outside the mine boundaries) and any other proposed facilities. What portions of the permit area, as discussed, have been surveyed and what percentage of the permit area does this equal? What methodology was employed?

2. The known sites are not discussed in sufficient detail (page 6-98). Has subsurface testing been conducted? Are subsurface deposits present? Are these properties eligible for the National Register of Historic Places (NR)? If sufficient information exists to determine these properties eligible, or ineligible for the NR, this should be stated. The existing environment discussion (Section 6.9.1) does not provide any information on the archeological and historic background of the area, or on the known sites. Specific locational information would be inappropriate, however a general discussion of topographic setting, site size and relationship to proposed activities should be included.

3. The PDREIS provides conflicting and confusing information in regard to impacts on cultural resources. It states that mining will not take place in sensitive areas such as cemeteries and cultural resource sites (1-5). However, it also states that, prior to mining, the area will be cleared of all vegetation. Other project impacts can be expected from the construction of the facilities and related actions discussed earlier. Will the avoidance involve all activities in the entire permit area, or only mining in the mining area? Total avoidance would result in no impact to the cultural properties, however the PDREIS states variously: that sites will be "disturbed" (1-8), "none of the known sites within the mine boundary will be affected by this project" (6-99), and that there will be an "irreversible commitment of any cultural resources that are within the direct path of construction or mining activities" (6-99). The meaning of the words "irreversible commitment" in regard to cultural resources is unclear, but it is assumed to mean that they will be destroyed. This section should be clarified to present a uniform assessment.

4. Although the Texas Historical Commission (THC) is correctly listed as a cooperating agency (7-1), it is not listed as having received a PDREIS for review and comment (7-3), as would be appropriate. No evidence of the necessary coordination with the THC in the form of a proposed Memorandum of Agreement, or discussion is referenced. It this coordination underway, or on-going?

5. The PDREIS gives vague, confusing and contradictory information on the cultural resources. The points mentioned above should be addressed, as should any comments from the THC. The information should be discussed concisely, but with sufficient detail to allow assessment of the consequences of the project's construction for any significant cultural resources.

accepted wetland definitions including that now used by the Fish and Wildlife Service. Since this distinction of wetland acreages in the EIS is only a matter of definition the 372 acre wetland figure should be deleted. A figure for those wetlands not within COF jurisdiction would be desirable. The paragraph also states that 850 acres of "regulatory wetlands" exist within the study area. This is not the wetland acreage (1,350) provided with our wetland determination. From where was the 850 acre figure derived?

On page 6-67, and again on page 6-74 the EIS states that only 50 acres of "regulatory wetlands" will be mined. Is this figure for the entire mining sequence or for the first 5-year plan only? Will these wetlands be restored or lost permanently and where are these wetlands located? The mining sequence map Figure 1-2 shows major intrusions into both the Mill Creek and the Tiawichi Creek wetland complexes. This sequence map should be more specific as to where mining will take place.

The EIS is not specific and rather contradictory on the subject of stream diversions. On page 5-28 (1st paragraph) and again on page 6-75 it is stated that mining operations will avoid major streams presumably Mill and Tiawichi Creeks. However, on page 5-28 the EIS states that "flood protection levees and stream diversion channels may be provided where necessary to prevent floodwaters of major creeks from entering mine pits". This statement is contradictory. Furthermore, on page 6-75 it is stated the "minor streams which are mined through" and section 5.2.2.3 states that diverting and rerouting small streams will be necessary. However, on page 5-24 the EIS states that only one stream will be diverted. Does this refer to the 5-year plan only, and which stream(s) will be affected and how?

On page 6-73 through 6-75 a discussion is made on the Section 404(b)(1) guidelines under the heading of operation impact. The evaluation is lost in this section and should be under an individual heading or included as an Appendix. The evaluation should follow the format of the 404(b)(1) guidelines published in 40 CFR Part 230. Much of this may take the form of summary statement which reference the text. A statement concerning the water-dependency of the project and compliance with the guidelines should be included.

The sections regarding the impacts of no action alternatives generally assume that a general development and deterioration of the area will occur. This is not based on fact. Several statements in these sections are without foundation and should be deleted such as that on page 5-1, 3rd paragraph which states "clear cutting and natural phenomena such as damage from fires and insects could weaken the present woodland cover and cause a greater potential for accelerated erosion". The forest ecosystem is readily adapted to these natural phenomena and accelerated erosion should not result from these ongoing processes. This paragraph also states that "vegetative cover would continue to change toward lesser diversity because of silviculture and agriculture". However, section 6.11.1.1, page 6-117, states that agricultural lands in the area have decreased from 53% in 1969 to 48% in 1978 and the number of cattle decreased 20% in the region from 1976-1980. This contradicts the statements that this area is being progressively developed.

Section 6.3.3.2, Page 6-46

The PDEIS states that between 9 and 36 percent of the flow in Mill Creek could be diverted to the mine pits through dewatering of the ground water strata. However, on page 6-89 Section 6.5.3.2 the PDEIS states that base flows of Mill and Tiauelchi Creeks "should not be significantly affected and that the quality of stream flow to downstream ecosystems should not be adversely impacted over the long-term." No data or reasoning is provided on which to base these conclusions. We consider a 36% reduction in base flow in these streams as a significant impact that may adversely affect the aquatic ecosystem in those streams and downstream wetlands.

Section 6.3.3.3

The PDEIS states that the "results of the geochemical analysis from the overburden cores (see 6.1.1) indicates that no significant problems should result from any chemical constituent." However, we can find no information in Section 6.1.1 to support this conclusion. Information on possible water quality impacts to ground water is scattered and inconclusive. On page 6-48 it is stated that "calculations indicate" a net pH value greater than 4 will exist in ground water. These "calculations" are not adequately cited and documented. On page 6-49 the PDEIS states that "It is anticipated that concentrations exceeding water quality standards" (in ground water) "would be restricted to within a few hundred feet of the mine." This statement seems to indicate that adverse impacts to ground water will occur on the mine area. Presumably the mine will be reinhabited by landowners following reclamation. If this is the case, will the ground water be unsuitable for human and livestock consumption, and if so, for how long? If the monitoring program detects severe water quality impacts on ground or surface waters, what action will be taken?

Section 6.5.3.2

On page 6-88, it is stated "The short-term impacts on downstream water quality and the dependent wetlands should be minimized since all discharges must comply with State Water Quality standards for segment 0505 of the Sabine River and EPA's NSPS for coal mine discharges."

The use of federal and state regulatory standards as justification for a conclusion that the project will not have adverse impacts is not logical or conclusive reasoning. Impacts should be documented and assessed on their actual potential effects.

Section 6.6.3.2, Page 6-104, 3rd paragraph, line 11 and 12

These citations are not included in the bibliography.

Section 5.1.6.1, Page 5-13

This section states that 10-50% of a given acreage will be planted to woodland. Yet on page 6-29 it is given that on other TUGCO mines 9.7% of the areas have been planted to forest. Does TUGCO propose to plant a higher acreage to trees on the area D than it's other mine areas or will the acreage of trees be much the same? If so, the statements citing 10-50% forest are contradictory.

Section 5.1.8, Page 50

The PDEIS states that TUGCO owned land upon completion of reclamation will be handled in the most cost-effective method. It does not state how TUGCO owned land will be reclaimed. This should be discussed along with the amount of TUGCO land to be reclaimed.

Section 5.2.1, Page 5-23

This section states that "major stream diversions or rerouting are not anticipated. A 200 foot section of Dry Creek would be diverted." This implies that Dry Creek is not a major stream. However, on the same page it is stated that "Diversions and rerouting of small streams might be necessary." This statement is contradictory since it is implied above that Dry Creek, a minor stream, will be the only stream diverted. The number and anticipated length of stream diversions should be stated in the FIS.

Section 5.4, Page 5-33

This section discusses COE Section 404 alternatives in terms of individual permit criteria. The discussion is somewhat misleading since an application will not be filed and an individual permit will not be processed for the mine and most of the accessory facilities. Since most discharges of dredged and fill material into the waters of the United States will be upstream of the headwaters, the work may be authorized by a general permit issued on a nationwide basis provided the conditions of the permit are met. No administrative procedures are necessary to receive authorization under the nationwide permit. If all the work is in compliance with all conditions, COE alternatives are to take no action, or to assert discretionary authority and require an individual permit for the proposed discharge if the District Engineer has reason to have concern for the aquatic environment.

The Draft EIS states that the control of sediment load, pH and iron content of water entering streams from the mining and reclamation areas is required by the Railroad Commission. The EIS should discuss more fully what parameters will be monitored, frequency of monitoring, concentration and load allowed to be discharged to receiving streams, and what the Railroad Commission standards are for discharge compliance.

The use of pesticides for control of weeds, insects and other pests as necessary is discussed as part of the re-vegetation program. Will any pesticide monitoring be performed? Since it was indicated that fertilization to aid in re-establishment of vegetation during the reclamation phase may temporarily increase nutrient levels of surface runoff to area streams, will pesticides used in the reclamation phase also cause an increase in these substances in the runoff?

In the applicants proposed method for overburden handling, the potential for exposure of layers high in pyritic sulfur (which can result in low soil pH and possible release of toxic elements in runoff waters) appears totally dependent on equipment operators being properly trained to recognize these thin layers which are high in pyrites and selectively placing these layers near the bottom of the pit. How effectively can this management technique be accomplished? The Draft EIS does not discuss if any monitoring will be done for toxic elements in runoff waters or what particular parameters are involved.

In the discussion of water quality, it is stated that the mine plan has been formulated specifically to avoid major streams to the extent practicable and that surface runoff from disturbed mining areas will be routed to sedimentation ponds which must meet EPA's new source performance standards for alkaline mine discharges. There was no discussion of what the effluent concentration guidelines are for these performance standards. Also, will there be any required periodic monitoring of Hill Creek, Tiawitchi Creek and Lake Cherokee to determine if any impacts are occurring to these receiving waters?

Finally, it was stated that the prevention of long-term adverse impacts to downstream water quality is assured by the required certification of compliance with State Water Quality Standards of all discharges from the proposed project and by the EPA's New Source Performance Standards. However, it is not clear from the information presented as to how this will be accomplished.

In closing, we would offer a comment that is broader in scope than the particular lignite mine discussed herein. A significant area of the Sabine Basin upstream from Toledo Bend Reservoir is affected by existing and proposed lignite mining operations. Do the various regulatory agencies consider the potential cumulative impact from all of these projects on downstream receiving waters? Are there any plans to increase monitoring activities to evaluate water quality trends over the life of the mining projects?

We consider the hydrologic data and the analytical method (i.e., Soil Conservation Service computerized watershed model, TR-20, 1965) used in the report are reasonable for preliminary study purposes. However, we have some reservations as to the viability of the conclusions reached in the report relative to soils, ground water, and surface water, as summarized in TABLE 1-2 (page 1-8). Fundamentally, we are concerned about the viability of two key generalized assumptions adopted in the analysis, i.e., (1) that the surface runoff chemical characteristics will remain essentially unchanged after mining and reclamation over the 30-year operational period (section 6.4.3.1, page 6-61); and, (2) that the treatment of discharged waters from the system of sedimentation ponds into existing natural water courses and lakes will remain uniform, effective, and uninterrupted under all circumstances over the 30-year operational period (section 6.4.3.1, pages 6-56 to 6-61).

It is our opinion that predictions of: (1) the probable quantity and quality of waters discharged from the active mining and reclaimed mined sections of Martin Lake Mine Area "D"; (2) the probable effectiveness of the treatment plan for discharged waters; (3) the probable impacts of discharged waters on the quality of water in Lake Cherokee; and, (4) the probable impacts on other downstream water right permittees, could be more confidently and reliably undertaken if complete physical and chemical data on the soil overburden (i.e., soil stability; bulk density; clay content and type; rock content; erodibility; acid-forming, alkali-forming, sulfone-forming, and trace-metal-forming potentialities) were made available to and considered by the environmental impact analysts.

We believe that the findings and conclusions of the report relative to surface water quantity and quality pertaining to Martin Lake Mine Area "D" and Lake Cherokee should be considered in light of the experience and results observed by the Texas Railroad Commission and TUGCO in Mining Areas "A", "B", and "C", regarding: (1) the changes in storm runoff from reclaimed mined lands; (2) the water quality control effectiveness and sediment-trapping effectiveness of the sedimentation pond system in terms of total dissolved solids (TDS), total suspended solids (TSS), and hazardous trace metals; and (3) the selenium problems in Martin Lake. Available historical data on existing sedimentation ponds in Martin Lake Mine Areas "A", "B", and "C" indicate that in regard to the TSS parameter, treatability has proven to be ineffective. Thus, adverse water quality impacts could result if the same TSS treatment method is adopted in the small watershed of Lake Cherokee, located in the Martin Lake Mine Area "D". In addition, special consideration should be given to the probable effect of ineffectively treated inflows on existing power plant cooling water properties of Lake Cherokee.

On page 1-7 of the document, several issues are listed that were identified during the scoping process which express a concern for the impacts upon, and losses of, fish and wildlife habitat. Proper reclamation is also identified as a major concern.

While the document provides a great deal of information, it does not provide the detail needed to enable this agency to determine the quality of habitat created following mining and therefore its suitability to various wildlife species. Although the document lists the vegetative species that would be planted during reclamation, it does not give the approximate acreages allotted to various vegetative types, i.e., coastal bermuda, mixed herbaceous, pine plantations, mixed woody, etc.

According to Table 6-15, approximately 41% of the project area is currently woody or forested area. While this agency understands the problem of providing a completed map that delineates the proposed plantings on the entire mining area, a plan that describes the general intentions would be helpful.

In order to provide a reclamation plan that discloses the needed information and would be beneficial to wildlife, the following measures are suggested.

- (1) List the percentage or acreages of land that would be replanted in coastal bermuda, mixed herbaceous cover, pine plantations, mixed woody, etc.
- (2) List the type planting patterns that would be used in planting woody species, e.g.:
 - (a) the number of acres in each plot,
 - (b) the shape of plots, i.e., motts, strips, etc.
- (3) Planting fence rows with species beneficial to wildlife would provide travel lanes for wildlife.

1. It should be noted that the four alternatives listed on page 5-10 and Figure 5-1 do not correspond to alternatives in Figure 5-2 and cost estimates on page 5-17. It appears alternatives 2 and 3 are reversed.
2. The plan does not clearly define how "chop cut" method would be accomplished.

3. There is continued concern over revegetation species. Based on past land use and revegetation activities, essentially all land not to be in woodland has been returned to bermudagrass.

4. Page 6-21, Prime Farmland, second sentence - "...very little of the area qualifies as prime farmland based on soil type and historical land use." This statement is not entirely correct. On approximately one-third of the area the soils qualify as prime farmland. Although the Railroad Commission may have issued a finding on not prime due to historical use, this does not change the USDA classification.

5. Page 6-21, Prime Farmland, last sentence - "It is possible that the postmined soils will enhance production through improvement of the root medium, thereby creating a long-term beneficial impact." This is a rather optimistic statement. Should we carry this one step further and suggest that we should mine all of northeast Texas to improve the soils? Some attributes of the soil may be improved, such as loosening the subsoil, but doubt an overall benefit.

Page 6-16 states "...prime farmland soil as defined under criteria established by the SCS." Should be "...prime farmland as defined in Federal Register and identified by the USDA-Soil Conservation Service."

Page 6-176 - the EIS compares fertilizer costs by stating simply that moderate amounts of fertilizer and lime are needed. The same statement is made for existing soils.

Past experience in mined areas of East Texas on Wilcox Geologic materials indicate that higher amounts of a complete fertilizer are needed on mine spoil areas where existing soils need mainly nitrogen with small amounts of P and K to maintain an acceptable level of production. Organic matter content and micro-organism content are higher on existing soils which has a beneficial effect.

Perhaps a comparison of fertilizer costs would be in order, similar to comparison of costs for different mining alternatives.

Reference was made to the chemical properties of mixed overburden, but could not find a table that showed the laboratory data.

Page 6-96-97

The section on "Existing Environment" appears to be a literature review and does not discuss how the sites will be affected, nor does it mention the determinations of affect which have been made.

No percentages of areas surveyed are given.

Differentiation in areas surveyed and not surveyed are not pointed out specifically.

The Walling Cabin, 41RK104, has been determined eligible for the National Register of Historic Places. If other "old structures exist in the area..." they should be recorded or some explanation given as to why they have not been recorded.

Page 6-98

A discussion regarding the sites found would be desirable; while specific locational data is not warranted, a more complete discussion of the sites and their occurrence in the project surroundings, i.e., how they will be affected, is appropriate.

Page 6-99

The statement concerning the "irreversible commitment" of resources is misleading--it should be simply stated. It is assumed that destruction of the sites is the impact of the project.

The statement concerning the known sites within the mine boundary not being affected by the project is not accurate. Impacts to those sites may occur due to stream diversions, land clearing, catchment basins and other activities.

Why will 41RK85 and 41RK86 not be disturbed, since there is lignite in the area? According to what directive will 41RK87 be left intact? How has that decision been reached and under what consultation process has that taken place?

The decisions concerning 41RK107 and 41RK108 should be explained in terms of the process involved in reaching that decision.

The memorandum of agreement has been drafted in this project and should be noted in the document.

Avoidance of sites does not always imply preservation. Indirect impacts occur by changing the surrounding environment, thus affecting the sites.

The cultural resource section in this PDEIS is vague and does not differentiate between areas directly affected by mining and those associated with all the ancillary facilities. These areas are not dealt with succinctly in relation to the project impacts. Specific plans for further compliance procedures are not noted.

B. PUBLICATION OF THE DEIS AND THE PUBLIC HEARING

The Notice of Availability of the Draft Environmental Impact Statement appeared in the March 11, 1983 issue of the Federal Register. The Notice announced a public review period ending May 3, 1983. The public review period was scheduled to provide concerned agencies and the public with an opportunity to review the DEIS and the make comments on the adequacy of the analysis of impacts of the proposed action and alternatives. About 350 copies of the DEIS were distributed to reviewing agencies, organizations and interested members of the public. Copies of the DEIS also were made available for public review at three locations in the project area. During the review period, 40 comment letters were received.

EPA sponsored a Public Hearing on the DEIS at 7:30 P.M. on April 26, 1983 at the County Courthouse in Henderson, Texas. The meeting was attended by representatives of EPA, Texas Utilities and project consultants. About 175 members of the public, interested agencies and organizations attended the hearing. The hearing was divided into three parts: first, representatives of EPA made formal presentations; second, comment statements were made by interested citizens; and third, questions were received from the audience. Four individuals read statements during the Public Hearing.

Each of the 40 comment letters and two (2) of the statements (for a total of 42) are presented on the following pages, with EPA's responses printed beside the comments. Two (2) of the statements read at the hearing were superceded by letters which are included prior to the other comment letters on the following pages.

COPY

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

PUBLIC HEARING

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

ENVIRONMENTAL IMPACT STATEMENT

TEXAS UTILITIES GENERATING COMPANY

MARTIN LAKE "D" AREA LIGNITE SURFACE MINE

April 26, 1983

RUSK COUNTY COURTHOUSE
HENDERSON, TEXAS

STATEMENT OF MR. BILLY FURRH
at the Public Hearing
April 26, 1983

Responses to the Statement at the Public Hearing
by Mr. Billy Furrh

1. The cost figure stated on page 5-1 of the Draft EIS included the average cost for all utilities in Texas. System-wide costs for Texas Utilities Company System (TUCS) for calendar year 1982 are lignite at \$0.842 per million BTU and natural gas at \$3.499 per million BTU. Thus, in 1982 gas cost TUCS about 4.2 times as much per BTU as did lignite.
2. As stated on page 6-124 of the Draft EIS, all marketable timber or wood products would be sold while unmarketable vegetative matter would be burned on site. The burning would adhere to Texas Air Control Board (TACB) regulations. The applicable TACB regulations are, Texas Administrative Code, Title 31, Natural Resources, Chapter III-Particulates, specifically paragraphs 11.2 (6) C, D, E, F, G and H. These restrict burning to: outside corporate limits of a city or town, only when the wind direction carries smoke away from occupied areas, at least 300 ft. from occupied areas, dry plant material only, between the hours of 9:00 a.m. and 5:00 p.m., and only when wind speed is greater than 6 mph but less than 23 mph.

21

MR. HUDSON: All right. Mr. Billy Furrh.
Mr. Furrh, would you go to the microphone.

MR. FURRH: I am Billy Furrh, Water
Chairman, Marshall-Harrison County League of Women
Voters. I would like to know among other things --

you state in the EIS statement that in 1981 natural
gas costs 3.5 times more than lignite per BTU,

I would assume is what you mean by that, and I
would like to know what the comparable figures

are for today, I think that we are all aware

that natural gas prices are somewhat lower now

than they were in 1981. Another thing I would

like to know is, you are talking about clearing

a large area of vegetation, and how is this

vegetation going to be disposed of, if it is going

to be burned, naturally we would need some data

on how this is going to affect emissions into the air,

JOHN FOSTER
GENERAL MANAGER
HOUSTON, TEXAS 77002

that I haven't seen covered in this statement. There is talk about high level management on this reclaimed property for five years. After five years, it reverts to the landowner, and I think the landowner should be made aware of what they are going to have to do, to keep this property in production. On page 1-7, referring to air and sound quality, it states that long term adverse secondary impacts will occur. I think that probably we would like to know in laymen's language what these -- how long they will last. I also think with the reclamation that has been going on since 1977, it would be -- or should be imperative for all groups concerned to be able to have a tour of this area, and I don't mean a tour of an isolated showcase project like we have at Fairfield or somewhere like that, I mean let us see how and what you are doing on reclamation work here in East Texas. It states also that in numerous areas that eighty to ninety percent productivity will be resulted from this reclamation project, but it's kind of contradictory I think, it talks in terms -- are we talking about eighty to ninety percent of the wildlife that we still have here -- we are talking about some

JOHN FOSTER
 FURNISHED SHORLAND REPORTER
 10/20/85 10:45 AM 1985

Mr. Billy Furrh
 Page 2

3. Section 6.2.3.5 (pp. 6-27 to 6-29 of the Draft EIS) discusses the fertilizer and lime requirements during the bonding period and predicts, in general, the requirements after release from bond. Also, see Response to Comment No. 5 from Dr. Greg Bell.
4. The statement on page 1-7 of the Draft EIS refers only to long-term adverse secondary impacts to air quality--not sound quality. The reference is made in regards to operation of the Martin Lake Steam Electric Station (MLSES). Long-term refers to impacts throughout the life of the power plant. Adverse refers to a lessening of air quality compared to conditions without the plant. Secondary means that, since the EIS concerns mining, these impacts are not directly a result of mining but are due to burning the lignite.
5. TUGCO states that they frequently conduct tours of the Martin Lake "A", "B" and "C" mining areas for groups and individuals. Anyone interested can contact the MLSES office.

6. The measure of productivity is based upon reference areas or published standards. Reference areas are parcels of land which have not been disturbed by mining and which are used for comparison to disturbed areas in determining revegetation success. Reference areas are in use at mining areas "A", "B" and "C". Therefore, productivity of reclaimed pastureland is measured against undisturbed pastureland forest areas. The productivity of reclaimed forest areas is measured against undisturbed forest areas. The productivity refers only to revegetation success, not re-establishment of wildlife populations. The impacts to wildlife and predictions of postmining conditions are discussed in Section 6.6.3.2 beginning on page 6-99 of the Draft EIS. The use of a percentage range (10 to 50 percent) for reforestation is vague. This represents the TUGCO commitment. It is unknown whether this will be acceptable to the RRC. For any given acre of land the vegetative cover to be established may be based upon factors such as: suitability of the land (e.g., steep slopes near water courses may be most suitable to woody species); adjacent vegetative cover (e.g., a small area of grassland partially surrounded by woody species may be most appropriate); desires of the land owner (e.g., lease conditions may specify the vegetative cover); or regulatory restrictions of the RRC (e.g., planting woody species may represent a land use change). TUGCO's practices in reforestation at the "A", "B" and "C" areas have increased each year (during the last three years) and reforestation areas presently amount to approximately 13 percent of the total area disturbed to date.
7. The list of species in Table 6-17 (page 6-98) was developed by TUGCO in consultation with Texas Parks and Wildlife Department, Soil Conservation Service and Railroad Commission of Texas. The list represents those species which might be used during reclamation. Inclusion of any species does not mean that it would be used, only that TUGCO has the option to use it if conditions warrant. Some non-native species are included for potential use in special circumstances. The special circumstances which might call for the use of introduced (non-native) species include: (1) unavailability of native species; and (2) more optimal growth of the introduced species compared to native species. The particular species used in any case, the frequency of use and the acreage of coverage must be determined on a case-by-case basis. The RRC regulations (.391) state that an introduced species may be used only if approved by the RRC under the following conditions: (1) after appropriate field trials have demonstrated that the introduced species are desirable and necessary to achieve the approved postmining land use; (2) the species are necessary to achieve a quick, temporary and stabilized cover which aids in controlling erosion and measures to establish permanent vegetation are developed; (3) the species are compatible with the plant and animal species of the region; and (4) the species meet the requirements of applicable state and federal seed or introduced species statutes and are not poisonous or noxious.

of the prime hunting land in East Texas, which will not only be barred to public use for a number of years, but what is going to be there as far as wildlife goes after this reclamation takes place. In other places in the statement, you state that fifty to ninety percent will be in improved pastures. Well, I would prefer something a little more specific than fifty to ninety percent. In another area you say ten to fifty percent will be in forest. Once again I think you could be a little more specific on that. I would like to know why non-native species of vegetation, such as cottonwood and tallow trees are introduced. I have heard that it is because these species will grow in sub-standard soils. I think the major issues and concerns should be -- although there are twelve listed, the one that I think the jury is still out on, is number one, our potential for contamination of major aquifers. Number two, again related to water, the impact on surface water quality and quantity. And number five, and this is just a personal concern of mine, but I think it would be shared by a number of people in East Texas, is the loss of

JOHN FOSTER
CERTIFIED SUDANIAN RECLAMATION
- 10000000 TEXAS 1982

Mr. Billy Furrh
Page 4

8. As stated on page 1-9, the twelve concerns listed were identified during the scoping process. However, the ordering of the items is related to the order in which those subjects are addressed in Chapter 6, not to their importance (i.e., No. 1 is not necessarily more important than No. 12). Each individual or agency might attach the most importance to different concerns, but all twelve are important.

24

wildlife habitat. It seems to me that TUGCO had conveniently not furnished the data on what is happening in their present reclamation projects.

8.

So, I think it would behoove all of us to wait until it can be demonstrated, that the methods they are using will do what TUGCO projects it will do. Thank you.

JOHN FOSTER
SERIALS & INFORMATION SERVICES
MEMPHIS, TENNESSEE 38152

6027

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

PUBLIC HEARING

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

ENVIRONMENTAL IMPACT STATEMENT

TEXAS UTILITIES GENERATING COMPANY

MARTIN LANE "D" AREA LIGNITE SURFACE MINE

APRIL 26, 1983

RUSK COUNTY COURTHOUSE
HENDERSON, TEXAS

BEFORE THE UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY

IN THE MATTER OF:
PUBLIC HEARING - ENVIRONMENTAL IMPACT STATEMENT
MARTIN LANE "D" LIGNITE SURFACE MINE PROJECT

RUSK COUNTY COURTHOUSE
HENDERSON, TEXAS 75652
APRIL 26, 1983

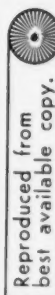
STATEMENT OF GUS L. BROWN ET UX BETTY W. BROWN
PFD 4 BOX 732
HENDERSON, TEXAS 75652
RESIDENTS AND PROPERTY OWNERS
IN THE CAPTIONED AREA

Response to Comments in the
Statement of Gus L. Brown et al. Betty W. Brown

Many residents and property owners of the captioned area are served by electric, telephone, and community water cooperatives. Improvements and services to and from their homes, property, churches, community centers, and cemeteries are by way of state aid or county maintained all-weather roads. Many of the residents and/or property owners in the captioned area raise livestock, poultry, fish, row-crops, and/or timber as a means of earning or supplementing a livelihood.

For those residents or property owners of the captioned area who are alert to not lease, sell, or exchange their property to proponents of this surface mine project, but rather elect to maintain homes, churches, the surface of their property in its natural undisturbed state, or in a disturbed state of their own choice, we ask this Agency and/or any other duly constituted public authority charged with the responsibility to insure that:

1. Essential services (electricity, telephone, water, gas, etc.) are maintained at costs not inconsistent with those outside the captioned area in northeast Texas.
2. All-weather, public roads, of a design and width equal to or exceeding those in the area at this date, be maintained to and from each residences, property, churches, cemeteries, community centers, public parks, etc., as there in the area of this date, and without undue difficulty (not in excess of 20 percent of the present distance) to and from schools, churches, hospitals, shopping centers, etc.



Continued electric, telephone, water, gas and other services can be expected with compliance with Section 422 of the RRC regulations. This section states in part) "All surface mining activities shall be conducted in a manner which minimizes damage, destruction, or disruption of services provided by oil, gas, and water wells; oil, gas, and coal-slurry pipelines; railroads; electric and telephone lines; and water and sewage lines which pass over, under, or through the permit area, unless otherwise approved by the owner of those facilities and the Commission." Water service is further protected by Section 352 which states, "Any person who conducts surface mining activities shall replace the water supply of an owner of interest in real property who obtains all or part of his or her supply of water for domestic, agricultural, industrial, or other legitimate use from an underground or surface source, where the water supply has been affected by contamination, diminution, or interruption proximately resulting from the surface mining activities." Non-compliance with any of the regulations or with the Texas Surface Coal Mining and Reclamation Act would result in the issuance of a Notice of Violation or Cessation Order as required under Part 843 - Enforcement. The enforcement procedures are designed to ensure compliance or to halt mining activities if regulations are not complied with. Some indication of compliance and enforcement can be obtained from the information on violations submitted in the recent TUGCO application to the RRC for construction of the loading station area (Appendix B). Regarding water wells, generally the burden of proof of damage falls on the well owner. EPA has no further information on enforcement. In various instances, specific plans have not been addressed so that a review of whether they will likely meet regulations cannot now be made.

The protection of public roads as well as residential property, cemeteries, churches, parks and other private and public structures is addressed by Section 4071 of the RRC regulations. Buffer zones are required between these properties and mining operations. The buffer zone between mining and an occupied dwelling may be reduced after the dwelling owner provides a written waiver consenting to activities closer than 300 feet. Mining activities may occur closer than 100 feet to the right of way of a public road (1) where mine access roads or haul roads join such a right-of-way line or (2) where the Commission allows a public road to be relocated or the area affected to be within 100 feet of such a road after (a) public notice (appearing in a local newspaper of general circulation) at least two weeks prior to any hearing and a public hearing (if one is requested by an interested party or determined necessary by the RRC) and (b) making a written finding that the affected public and landowners will be protected. TUGCO has proposed to relocate a section of FM 782 (see Part III) but no agreement with the State Department of Highways and Public Transportation has been made and no official request for reduction of the buffer has been made to the RRC. The request, if one is made, should be made in the mining permit application. No mechanism exists to reduce the size of the buffer zones for cemeteries, churches, schools, community or institutional buildings and public parks. The RRC statute (1983) that in the past, requests for reductions in the size of buffer zones have been denied in cases where the supporting documentation provided by the applicant was insufficient to justify a reduction.

3. The noise level, quality of air, and water is conducive to good health and productivity of humans, animals, and vegetation, and not disruptive to public places, such as churches and cemeteries.
4. The mining operations of proponents shall not cease or create erosion to such property or cause a reduction in the useful life expectancy of buildings, fences, and/or other improvements.

3. The RRC regulations provide for the protection from excessive noise (Section .071, Buffer Zones), lessened air quality (Section .379) and change in the quality or quantity of both surface and ground water (Sections .339 through .355). In addition, air quality is protected by Texas Air Control Board regulations while water quality is protected by compliance with permits from the Texas Department of Water Resources and the U.S. Environmental Protection Agency (NPDES permit). Some measures have been described in the DEIS based on information provided by the applicant. Each federal and state agency promulgating regulations and/or issuing permits have enforcement procedures. Enforcement procedures vary. The RRC conducts inspections monthly and quarterly at different times of the day and week to ensure all aspects of the mining operation are inspected. In addition, individuals who feel their property is being adversely affected may request, in writing, that the RRC hold a special inspection and may accompany the permittee to collect and analyze discharge samples and to provide monthly, self-monitoring reports. If a non-compliance event occurs it must be reported to EPA orally within 24 hours and in writing within 5 days of the event. It is important for individuals living outside the permit boundaries to be aware of impacts to their property. If an individual feels the mining operation is causing adverse impacts (e.g., to air quality, sound quality, water quality, etc.) on their property, he or she should report these conditions to the RRC or EPA.
4. Property and structures are protected, in general, by buffer zones specified under conditions of Section .071 of the RRC regulations. Specific regulations governing the control of erosion are found in Sections .335 through .337 (topsoil removal, handling and storage), .343 (sedimentation control including erosion control), .363 (disposal of excess spoil) and .393 (use of mulch and other soil stabilization procedures during revegetation).

EPA encourages you to continue your interest and to follow the project as it may proceed through the various stages of permitting, compliance and enforcement.

RESPECTFULLY SUBMITTED THIS 24TH DAY OF APRIL, 1983

Gus L. Brown
GUS L. BROWN

Betty W. Brown
BETTY W. BROWN

April 26, 1983

FROM: Dr. Greg Beil
President,
Marshall/Harrison County League of Women Voters
313 S. Washington St.
Marshall, TX 75670

TO: Clinton B. Spotts
United States Environmental Protection Agency
1201 Elm Street
Dallas, TX 75270

SUBJECT: Comments on Draft Environmental Impact Statement on the
Proposed Martin Lake "D" Area Lignite Surface Mine

A. We believe that more data is necessary to justify using Alternative 1
for handling of the overburden. Specifically:

1. More data on potential acidity of soils. A distribution of values should be given in addition to the ranges reported in Table 6-2 of the EIS.
2. More data on potential heavy metal content of the surface soil.
3. More information on the oxidation of pyrites, particularly after 5 years.
4. Data should be made available on long-term population of soil microorganisms and other factors affecting continuing soil fertility. There are some studies which claim that it may take as long as 75 years for topsoil to rebuild.
5. More data on fertilizer requirements for average to high crop yields, particularly after 5 years. Our concern is that most plants will die after the 5-year reclamation period without continued heavy application of lime and fertilizer by property owners.

B. We believe that more data is necessary on factors which affect the quality of surface water, particularly with regard to heavy metal concentrations. Specifically:

1. It should be reported how the samples listed in Table 6-15 were taken -- whether the coverage was random, total, or selected.
 2. An explanation should be given for the value of a manganese sample in this table which appears to be above the state allowable concentration.
 3. The range of values for Selenium should be given.
 4. More data on heavy metal concentrations from the ponds themselves in order to be able to estimate the possible effects of discharges.
- C. We believe that more specific information is necessary on the reclamation of forested areas. Specifically:
1. More data on the percentage of mined area which would be reclaimed for forest. The 10 to 50 percent value given in the EIS leaves a considerable latitude.

RECEIVED

APR 29 1983

6ES

Response to Comments by
Dr. Greg Beil

1. The calculated ranges shown on Table 6-2 represent the range of values from five cores and each value is based upon a homogeneous mixture of the core. The distribution of potential acidity values for the five cores is: 0.0, 1.5, 8.3, 21.3 and 27.5. The ranges were calculated using the weighted averages of the physical and chemical data from the overburden analyses of the five cores (Appendix B). For example, to determine the potential acidity resulting from Alternative 1, each core was considered separately. The potential acidity for each segment of the core was listed and weighted according to the length of the segment. Then, since the alternative considers a total mix, the weighted averages were averaged to provide a potential acidity value in a theoretical homogeneous mixture of overburden represented by that core. The calculations can be made in the following manner, using data for core hole #1128:

Segment No.	(A) Thickness (ft)	(B) Neutralization Potential	(C) % Total Sulfur	(D) $B - C^3$	(E) $A \times D^4$
5-1	11.8	-0.53	0.31	-0.86	-9.91
5-2	16.2	5.00	0.31	4.69	75.98
5-3	12.0	1.25	0.31	0.94	11.28
5-4	7.0	-0.95	0.31	-1.26	-8.82
5-5	1.3	0	23.4	-23.40	-30.42
5-6	3.3	2.73	11.3	-8.57	-28.28
5-7	9.8	3.80	14.7	-10.90	-106.82
TOTAL					-96.99 ⁵

¹The measure of residual bases in the soil expressed as tons of CaCO_3 per 1,000 tons material. A negative number means the soil is acidic.

²The measure of pyritic sulfur (acidity) expressed as tons of CaCO_3 per 1,000 tons material.

³The acidity of each core segment calculated by subtracting acidity value from residual base value. A negative number indicates potential acidity.

⁴The weighted average acidity of each core segment calculated by multiplying the acidity times the segment length. A negative number indicates potential acidity.

⁵The arithmetic total of weighted average acidity of each segment. The negative sign indicates potential acidity.

Then the average acidity of a hypothetical random mixture of the core can be calculated by dividing the total weighted average acidity (-96.99) by the length of the core (64.1 feet). The resulting number (1.5) expresses the potential acidity of such a mixture in terms of tons of CaCO_3 per 1,000 tons of material.

11. 2. More definitive projections on the use of various tree and shrub species. In particular, we wonder why such non-native or currently uncommon species as eastern cottonwood, Chinese tallow, and black locust are proposed.
12. 3. More studies should be done as to the effects of mining on wildlife populations in forest habitat in east Texas. It appears that with present reclamation plans there is little hope for reestablishment of any semblance of existing wildlife communities.

In summary, we feel that there is insufficient justification for the Alternative 1 method for handling the overburden. The economic benefits to the power company are outweighed by the adverse effects to soil reclamation, surface water quality, reforestation, and the general future use of the land.

15.

Dr. Greg Beil
Page 2

2. Data concerning the heavy metal concentrations in the overburden represented by the five cores are presented in Appendix B. The five cores were spaced evenly over approximately the southern half of the project area. The data do not characterize the overburden throughout the project area.
3. Pyrite can vary significantly in particle size and physical form. It has been found in at least six different forms in coal deposits. The most reactive form is framboidal pyrite which has particles less than 0.0004 inches in diameter. The rate of breakdown (oxidation) of pyrite is not constant over time and may depend upon pH, the amount of oxygen present, the presence of breakdown products and other factors. The addition of lime, to raise the pH, tends to slow down the breakdown of pyrite. The addition of lime to control pH during early reclamation efforts could actually extend the period of time over which lime is needed. The low pH caused by the breakdown of pyrite has an adverse effect on the growth of most plants and interferes with successful reclamation. In addition to the direct effects on plants, low soil pH also increases the rate of release of certain heavy metals (copper, nickel, zinc, manganese or iron) causing the amount of these metals in soil to reach a level which is toxic to plants. This causes further problems with reclamation and revegetation. The RRC regulations call for the successful revegetation of mined lands and establish a period of extended responsibility (during which the land is under bond) for the permittee to demonstrate successful reclamation. No such protection exists to guarantee control of pH and metals after reclaimed land is released from bond.
4. Soil fertility is dependent upon a number of factors including the physical and chemical characteristics of the soil (e.g., particle size, water holding capacity, presence of trace metals, pH, etc.) and the presence of microorganisms which are important for the regulation of the levels of certain elements (e.g., nitrogen). EPA concurs that under natural conditions topsoil rebuilding could take 75 years or much more. Under natural conditions it may take that long for all physical, chemical and microbiological factors to reach pre-disturbance conditions. Topsoil rebuilding may proceed much more rapidly if physical and chemical factors in spoils are similar to pre-mining conditions and when amendments (such as fertilizers and micro-organisms) are added during the reclamation process.
5. Data on fertilizer requirements for average to high crop yields are presented on page 6-28 of the Draft EIS. Although given as the data for 1981, the figures from TUGCO should be considered as the requirements from year two through five of reclamation. SCS technical guides for soils in the "D" area recommend 100 to 130 lbs of nitrogen, 40 lbs of phosphorus and 0 to 40 lbs of potassium annually to achieve high yields. At areas "A", "B" and "C" TUGCO applies (1981 figures) 80 to 160 lbs of nitrogen, 90 lbs of phosphorus and 135 lbs of potassium to obtain high yields. Fertilizer requirements on reconstructed soils vary greatly. For example, at areas "A", "B" and "C" the requirement for phosphorus varied from 40 lbs annually to 135 lbs annually in different reconstructed soils. No reclaimed mine land in Texas has been released from bond and fertilizer and lime requirements over time cannot yet be determined.
6. The data reported in Table 6-15 were collected at randomly selected locations during RRC inspection visits. The data are spot samples from sedimentation ponds throughout the Martin Lake "A", "B" and "C" areas and cannot be considered as long-term monitoring effects. No information is available to indicate whether the samples were taken under varying precipitation conditions.

7. The TDWR allowable concentrations given in Table 6-15 are for averages (weighted by flow) of all samples collected during a one month period. TDWR also has grab sample standards which should not be exceeded in any individual sample. Because of the apparent collection procedure for these samples, the grab sample standards should have been used. (Table 6-15 has been revised to reflect this, see Part III.) The grab sample standard for manganese is 3.0 parts per million which is not exceeded by the highest concentration listed on Table 6-15 (2.8 parts per million).
8. All samples showed concentrations of selenium which were below the detectable limit (0.01 ppm). No meaningful range can be given.
9. These data represent the concentrations in the sediment ponds. We have no data on metal concentrations in the streams or sediment below the discharges to determine constituents released during rainfall events.
10. The use of a percentage range (10 to 50 percent) for reforestation is vague. This represents the TUGCO commitment. It is unknown whether this will be acceptable to the RRC. For any given acre of land the vegetative cover to be established may be based upon factors such as: suitability of the land (e.g., steep slopes near water courses may be most suitable to woody species); adjacent vegetative cover (e.g., a small area of grassland partially surrounded by woody species may be most appropriate); desires of the land owner (e.g., lease conditions may specify the vegetative cover); or regulatory restrictions of the RRC (e.g., planting woody species may represent a land use change). TUGCO's practices in reforestation at the Martin Lake "A", "B", and "C" areas have increased each year (during the past three years) and reforestation areas presently amount to approximately 13 percent of the total area disturbed to date.
11. The list of species in Table 6-17 (page 6-98) was developed by TUGCO in consultation with Texas Parks and Wildlife Department, Soil Conservation Service and Railroad Commission of Texas. The list represents those species which might be used during reclamation. Inclusion of any species does not mean that it would be used, only that TUGCO has the option to use it if conditions warrant. Some non-native species are included for potential use in special circumstances. The special circumstances which might call for the use of introduced (non-native) species include: (1) unavailability of native species; (2) more optimal growth of the introduced species compared to native species. The particular species used in any case, the frequency of use and the acreage of coverage must be determined on a case-by-case basis. The RRC regulations (.391) state that an introduced species may be used only if approved by the RRC under the following conditions: (1) after appropriate field trials have demonstrated that the introduced species are desirable and necessary to achieve the approved postmining land use; (2) the species are necessary to achieve a quick, temporary and stabilized cover which aids in controlling erosion and measures to establish permanent vegetation are developed; (3) the species are compatible with the plant and animal species of the region; and (4) the species meet the requirements of applicable state and federal seed or introduced species statutes and are not poisonous or noxious.
12. Comment noted.
13. Comment noted.

DAVID P. BROWN
ATTORNEY AT LAW

HENDERSON, TEXAS 75652

April 29, 1953

RECEIVED
MAY 2 1953
CES

Mr. Clinton E. Spotts (GSSF)
United States Environmental Protection Agency
1201 Elm Street
Dallas, TX 75270

Dear Mr. Spotts:

Re: Environmental Impact Statement on Martin Lake 2 Area Lignite
Surface Mine in Henderson, Rusk County, Texas.

On April 26, 1953, I testified at the hearing in the Rusk County Courthouse on the above referred to Environmental Impact Statement and was requested to submit written comments. I had several concerns and questions which I raised at that meeting and which will be discussed below:

According to the draft EIS, TUGCO may only reforest 10 per cent of the area to be mined. (Their proposed plans call for reforestation of from 10 to 50 per cent of the affected area). Your table 6-23 shows that over 40 per cent (41.6%) of the area to be mined is now forest. I feel that TUGCO should be required to reforest the affected area with approximately the same amount of forest as it now has, that is at least 40 per cent. We value both our forest and our pasture lands in this area and both are vital and essential to the agricultural economy of this area. We have many pine trees in this area which are sold both for timber and pulpwood, and it would be a severe blow to this area to have such a large portion of our lands which are forested in pine trees cut back to such a low percentage of the affected area. Also, our hardwood trees as well as our pine trees contribute very significantly to the beauty of this area. You would only have to drive through this area one time in the fall of the year to appreciate the many reds, yellows, oranges, and other colors which adorn the trees of this county and area during the fall. I submit that the beauty of this region in the fall rivals that of any in our country. The tourism is a growing and important part of our local economy. Therefore, I submit that TUGCO should be required to agree to and submit proof that they can and will return the percentage of pasture and timberlands in the affected area to almost the same percentages of pasture and timberlands that are now found in that area. TUGCO should not be issued a permit from you until it guarantees that percentage and shows that it can restore that land adequately to support approximately 40 per cent forest.

Response to Comments by
Mr. David P. Brown

1. The plan for revegetation as stated by EPA is vague and is of concern to EPA. If the plan for 50 percent reforestation of the area mined is implemented it would amount to greater acreage of wooded vegetation than now exists; however, 50 percent reforestation is not seriously expected based on past measures taken by TUGCO. In addition to the NPDES wastewater discharge permit, the Railroad Commission of Texas has been delegated surface mining regulatory authority, the U.S. Department of the Interior Office of Surface Mining has overview responsibility. The mining regulations allow for a significant vegetation change on disturbed areas from woodland to "monoculture" grasses. TUGCO states that the 10-50 percent range is their commitment and apparently believes a permit will be obtained from RRC. The most environmentally sound revegetation alternative is considered by EPA to be that requiring equal acreage replacement utilizing native species for forage and cover for maximum recovery of wildlife habitat. Some of TUGCO's final plan will depend on the landowner lease conditions.
2. Comment noted.
3. Relatively temporary sediment loading problems are expected to occur during and after construction of the mine facilities area but the significance of these impacts to water quality is presently unknown. Temporary increases in nutrients could occur as a result of fertilization during revegetation. The mine facilities area (see Fig. III-1) is proposed to contain two (2) sedimentation ponds as well as facilities such as a sewage treatment plant, fuel storage area, maintenance shop, and handling area and crusher. Discharges from the facilities area will be routed through the ponds before release into Dry Creek. The sewage treatment plant discharge will require a permit from Texas Department of Water Resources as well as from EPA. The storage of 2,500 barrels of diesel fuel on site will require TUGCO to have a site specific Spill Prevention, Containment and Countermeasure Plans as called for by Section 311 of the Clean Water Act. The design of the fuel storage site includes containment dikes to prevent discharge of any spills in the area of the tank. TUGCO states that they will obtain an approved plan from EPA before operation of the facility. Long-term monitoring called for by the Draft NPDES Permit (Appendix A) may determine if effects from heavy metals or other constituents occur. The discharge to Dry Creek should have no effect on cattle drinking the water.
4. The quantity of water in Dry Creek during peak flows will be decreased by about 2 percent during mining operations. More frequent flooding is not expected since the frequency of storm events will not increase and the peak flows will be slightly less than at present.
5. The Dry Creek diversion is being planned to allow for mining of a lignite seam beneath the present channel. Other streams in the project area do not have lignite beneath their channels since it was washed out during geologic time. The lignite beneath Dry Creek is desirable because it is relatively shallow and can be obtained easily and inexpensively. The diversion is planned during the first five years of mining. The construction of the diversion is expected to take six months or less and the diversion would be in place (during mining) for about two years. During that time, nonirrigation vegetation would be planted to control erosion and stabilize the soil surface. Restoration of the channel to the prediversion location also would take

about six months. After restoration, the stream channel would be reclaimed to pre-mining conditions. The exact time for this process is presently unknown, but since the banks and surrounding area would be reclaimed with riparian vegetation, several years could be required before the vegetation resembles present conditions. Procedures governing release from bond are stated in Part 807 of the RRC regulations. To obtain the release of an area from bond (including stream diversions) the permittee must file an application with the RRC which includes copies of letters notifying (among others) adjacent landowners and local government bodies of the intent to seek release and proof of publication of a newspaper advertisement of the application for release from bond. The RRC must conduct a site inspection and evaluation of the reclamation work and, if requested, hold a public hearing on the application for release. No area can be fully released from bond until the permittee has successfully completed all surface coal mining and reclamation operations in accordance with the approved reclamation plan, including the implementation of any alternative land use plan approved pursuant to Section .399 or .568 and achieved compliance with the requirements of the Act, this Chapter, the regulatory program, the permit, and the applicable liability period under Section 23(b)(20) of the Act and Section .306(b) of this Subchapter has expired."

6. Upon filing a mining permit application with the Railroad Commission (RRC), TUGCO is required to advertise the application filing in a local newspaper once a week for four consecutive weeks (beginning at the time the complete permit application is filed) and to file a copy of the application at the Rusk County Courthouse for the public to inspect and copy. Until 30 days after the last newspaper notice, the RRC will accept written comments on the permit application. The applicant or any person with an interest which may be adversely affected may request a public hearing but must do so within 45 days after the last newspaper publication. The RRC could decide to hold a Public Hearing without any request. If a hearing is held, it will be held within 30 days of the request or determination by RRC, in the locality of the project.

7. TUGCO proposes to mine the area east of FM 782 (in the southern part of the area) and then divert the road to a location about 1500 feet to the east (onto reclaimed land). The relocation is planned within the first five years of mining to obtain light beneath the present right-of-way. About a 4 mile portion would be diverted and would lie into the existing road through gentle curves (i.e., no right angle corners). See Part III for revisions to the text.

8. Increases in crime associated with construction projects are related to the overall size of the construction work force and especially to the number of workers from outside the project area (in-migrating work force). For this project, no direct estimates of increased crime rates were made. The models used for socioeconomic analyses for this project do not include factors to directly predict increases in crime. However, the small increase in crime which might occur is indirectly accounted for in the predictions for the need to increase police services. Those predictions are based upon population increases caused by the project and are further affected by state recommended standards for police protection based on the overall population density and type of area (i.e., rural or urban). The state recommended standards for police protection are based on the level of crime associated with different population sizes and the effects of increasing or decreasing population. For this project the in-migrating work force would be small and no significant increase in crime would be expected.

Mr. Clinton B. Spotts (63SF)
Page 2
April 20, 1983

3. Your figure 5-6 shows that there will be a discharge from the retention pond at the loading station into Dry Creek. What effect will said discharge have on the water in Dry Creek? I am especially concerned about the effect that said discharge will have on the cattle drinking water out of Dry Creek. Dry Creek frequently floods once or twice a year then there is a heavy rain. This is not a rare occurrence, because I have seen it flood quite often myself. What effect will the above mentioned discharge have on the quantity of water in Dry Creek and will it cause more frequent flooding?

4. Your MS shows that a small portion of Dry Creek is going to be temporarily diverted from its present banks. Why is that small portion being diverted? Why is that the only creek that is being diverted? Why is only a small portion of that creek only being diverted? Is there any retaliation because the land in the temporary diversion has not been sold to TUGCO, as have many farms in the area? When is this diversion planned? Will this diversion cause reclamation efforts to take longer where the diversion is planned than they would in other areas where there is no diversion? You mention in your report that a Railroad Commission hearing would be conducted before this proposed diversion would be allowed. When will that hearing be conducted? Will the land owners involved be given notice of that hearing so that they can be present? Will that hearing be conducted locally as your hearing has been?

5. Your report states that FM Road 782 will be diverted. Where will it be diverted? Why will it be diverted? When will it be diverted?

6. Your report discusses whether there will be sufficient law enforcement officers for the increased population caused by this mining. However, I do not find any discussion in your report that adequately deals with the potential increase in crime. Statistics about the number of law enforcement officers needed is nice, but it doesn't help much when your property is stolen or destroyed. I know for a fact of certain increases in crime which occurred when the TUGCO plant was being constructed because I was Assistant County and District Attorney in Rusk County, Texas, during that period of time. The types of crime that particularly increased during the period of time were the theft of copper wire (primarily from power lines) and house burglaries.

7. We are also concerned in this area with what will be done with the enormous amount of land which is being purchased by TUGCO in mining areas. I am talking about what will be done with the land

Reproduced from
best available copy.

Mr. Clinton B. Spotts (655F)
Page 3
April 29, 1983

after mining and reclamation have been completed. This is an area of primarily small family farms, and we do not want one company owning all or a large portion of the land. I feel that all of the land purchased by TUGCO should be returned to the local land owners in farms similar to those now found in that area.

In a related concern, I would like to know how TUGCO plans to keep the present corners and boundary lines for farms in that area marked. This is very essential to land titles in that area.

Also, as to a particular farm owned by my father and I in the area to be mined, there are two trees of particular significance which I feel should be dealt with in your report. The first is a quince tree which is a fruit tree. I am told that it is one of only two such trees in the county. It was a large fruit tree and producing prolifically when my father bought this farm about 1950. It is still producing fruit prolifically in about July or August of each year. Due to its age and size I doubt very seriously if it could be successfully transplanted. Also, there is a large water oak or pin oak on our farm which might even qualify for designation as the largest in the state or nation. I do not know of the size the largest one is, but this tree would probably take four, if not more, men to reach around it with arms outstretched at its base. I feel that the impact of destroying such rare trees should be discussed in your report and would be glad to take any of your staff to view these trees at any time.

These are some of my main concerns about the area to be mined. I appreciate your giving me the time to speak about them at your recent hearing and accepting these written comments. We would sincerely appreciate your considering them in drafting your final report and deciding whether or not to issue a permit to TUGCO to mine the affected area.

Very truly yours,

David P. Brown
David P. Brown

pb

Mr. David P. Brown
Page 3

9. There is no restriction, by surface mining regulation or the Public Utilities Commission, on the disposition of land owned in fee by a private corporation such as TUGCO.
10. Present corners and boundary lines would be re-established on leased land after completion of mining. TUGCO-owned land would be surveyed and divided according to requirements for disposition of the land. The original corners and boundaries may not be re-established.
11. No regulatory standing or protection are afforded to trees based upon size alone. Protection might be afforded to trees associated with an historic site or if the tree were declared an historic site. Possibly, protection of a tree could be included as part of a lease agreement. The Texas Forest Service (TFS), College Station, maintains the "Registry of Champion Big Trees in Texas." Upon request, the TFS will send a list of champion big trees and the procedure to measure and register trees. Also, a national registry of big trees is maintained by the American Forestry Association, Washington, D.C.

The above comments are appreciated. We encourage you to continue your interest and follow the project as it may proceed through the surface mining permitting of the RRC as well as the NPDES wastewater discharge permitting.



TEXAS FOREST SERVICE

The Texas A&M University System

Area II

(714) 657-4013

6,352

P.O. Drawer 1327

Henderson, Texas

75453-1327

July 14, 1983

Environmental Protection Agency
Interfirst Two Bldg.
1201 Elm St.
Dallas, Texas 75270

Attention: Jeanene Peckham

Dear Ms. Peckham:

Thank you for the chance to review your EIS on the Martin Creek Lake Area D Permit. I do have some general comments that are of concern to me.

It seems to be a forgone conclusion that this area will be mined, so most of my concerns deal with the reclamation and revegetation of the mined area and the responsibilities of the company to accomplish this.

The message I perceive from the companies proposals and your information is that reforestation is not going to be considered in the revegetation process except along streams and on steep slopes. It sounds as though you consider reforestation too costly and too much trouble to pursue. At least 33% of the land they intend to mine is upland forestland. As it stands now, these sites are producing valuable commercial timber or at least they have this potential. I cannot agree with changing the land use on these sites to pasture without making an effort to restore them to their pre-mined state; forestland. Your information on the value to timberland is very discouraging. It is estimated that a pine plantation is worth from \$100.00 to \$125.00 per acre, per year over a 35-40 year rotation. True, it does take at least 15 years to realize initial income but you need to compare value on the same basis. What is an acre of pasture worth each year to a landowner? What are his costs for maintaining this pasture? I've collected some figures on the initial establishment costs of pine vs. pasture.

Costs For Pine Plantation Establishment

Treatment	Unit/Cost	Cost/Acre
Seedlings	\$25/1,000	\$ 18/Ac.
Terra Sorb	\$1/oz.	\$ 1/Ac.
Planting	\$35/Ac.	\$ 35/Ac.
		\$ 54/Ac. Total Cost

This should be the only cost incurred in establishing and maintaining a pine plantation until the first harvest.

The Forest Resource Agency of Texas

- More -

Response to Comments by
Texas Forest Service

I. The information is sincerely appreciated.

RECEIVED

JUL 18 1983

6 ES

RECEIVED

JUL 18 1983

6 ES

Establishment of Pastureland

<u>Treatment</u>	<u>Unit/Cost</u>	<u>Cost/Acre</u>
Seed	\$18.50/Lb.	\$ 9/Ac.
Fertilizer	\$185/Ton	\$ 20/Ac.
		\$37/Ac.

Application costs are included in the fertilizer costs since the seed can be mixed with the fertilizer and applied by bulk truck.

The establishment cost for pine is higher than for pasture but whereas there are no maintenance costs for growing pine there are yearly costs for fertilizer to maintain the pasture.

I should think that a proposal for at least 30% of the mined area to be reforested with pine would be acceptable. Just because the trend has been in years past for a decline in forested acres does not justify contributing to this decline in an accelerated manner. The timber resource is not only valuable to the landowner but it plays an important role in the economy of the county, and the state. It will always be a challenge for foresters to ensure an adequate supply of timber for this county and state.

You have classified certain areas as ecologically sensitive areas because they are wetlands and highly productive wildlife habitat. Wouldn't it stand to reason that pine plantations are also ecologically sensitive areas because of their substantial commercial value? (6.6.1.4)

Again I would like to thank you for the chance to respond.

I appreciate the magnitude of the job you are trying to accomplish in being a good steward of the land for the people of Rusk County. If I have raised any questions please feel free to call or write.

Sincerely,

Brad Smith

Brad Smith
County Forester

BS/pj

MARK WHITE
GOVERNOR



OFFICE OF THE GOVERNOR

Response to Comment by the
Office of the Governor

May 25, 1983

Mr. Dick Whittington, Regional Administrator
U.S. Environmental Protection Agency
1201 Elm Street
Dallas, Texas 75270

Dear Mr. Whittington:

The Governor's Office of Planning and Intergovernmental Relations has received for review and comment the draft environmental impact statement prepared on the Martin Lake "D" Area Lignite Surface Mine Project in Rusk County. The State Environmental Impact Statement number assigned to this project is 3-03-50-008.

The following state agency comments are provided for your consideration. Texas Department of Water Resources requests that changes be incorporated in the EPA permit to monitor and report several chemical levels in downstream stations in addition to other locations. This request is made due to inconsistencies in previous water quality reports for Martin Lake and the Sabine River studied by IDWR. Texas Parks and Wildlife Department is concerned with the applicant's plan to use inadequate ground cover for reclamation areas and also cites the need for monitoring downstream fishing areas for possible adverse impacts. The Texas Air Control Board advises the applicant to contact their office to determine the need for construction and operating permits for this facility. Review comments by the State Department of Highways and Public Transportation indicate this project will cause extensive damage to existing highway surfaces in Rusk County due to the hauling of materials and resulting development associated with this project. It is recommended that the applicant consult with SDHPT in an attempt to minimize road damage and to further determine those SDHPT permits required of the applicant. The Texas Historical Commission is notifying the applicant of the location of a potential national historical site designation with the request that this be noted in the final impact statement.

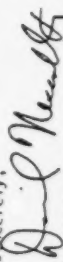
1. The comments in individual letters from the different state agencies are responded to separately for each letter.

6/2/83 6:55

Mr. Whittington
May 25, 1983
Page 2

This office appreciates the opportunity to review and comment on this environmental impact statement. If we may provide additional information during the review process, please let us know.

Sincerely,



David Nesenholtz, Assistant Director
Office of Planning and Intergovernmental
Relations

mbs

Comments enclosed: Texas Department of Water Resources
State Department of Highways and Public Transportation
Texas Air Control Board
Texas Parks and Wildlife Department
Texas Historical Commission
General Land Office

TEXAS DEPARTMENT OF WATER RESOURCES

1700 N. Congress Avenue
Austin, Texas



TEXAS WATER DEVELOPMENT BOARD
Louis A. Beechell, Jr., Chairman
George W. McClellan, Vice Chairman
Glen E. Roney
W. O. Bankston
Louise A. "Bo" Pilgrim
Louise Welch

TEXAS WATER COMMISSION
Lee B. M. Bigger, Chairman
Felix McDonald
John D. Stover

Charles E. Némir
Executive Director

April 25, 1983

Mr. Harnden Wiedemann, Director
Governor's Office of Planning &
Intergovernmental Relations
P. O. Box 13561
Austin, Texas 78711

Dear Mr. Wiedemann:

Subject: U.S. Environmental Protection Agency (EPA): Draft Environmental Impact Statement (DEIS) on MARTIN LAKE D AREA LIGNITE SURFACE MINE, HENDERSON, RUSK COUNTY, TEXAS. (EPA 906/9-83-003, March 1983)
State File Reference: EIS No. 3-03-50-008.

In response to your March 25 memorandum, members of the Texas Department of Water Resources (TDWR) staff have reviewed the subject report being considered by EPA in the administrative review of the application filed by the Texas Utilities Generating Company (TUGCO), requesting a National Pollutant Discharge Elimination System (NPDES) permit to discharge wastewaters from the Martin Lake "D" Area Lignite Surface Mine, near the City of Henderson, Rusk County, Texas.

We suggest that NPDES Permit (TX 009120) proposed by EPA (Reference: Appendix C, subject report) be amended to require the permittee to monitor and report the concentrations of ammonia, phenols, and mercury at three selected, existing downstream water quality monitoring sampling stations, in addition to monitoring the effluent quality-control parameters, stipulated in the federal New Source Performance Standards (NSPS) of October 1982 (Reference: Table 5-3, page 5-29; and Appendix C, page C-2, subject report). This suggestion is based on our consideration of certain findings and inconsistencies observed between the report of the Southwest Research Institute (SWRI) on the ambient water quality sampling and analysis program in 1974, and the reports of the Sabine River Authority of Texas (SRA) on water quality monitoring program during 1977-1980, in the Martin Lake lignite mining area. (References: Section 6.4.1.3, pages 6-54 to 6-64, subject report; and, SRA Report: COMPILATION OF DATA--MILL CREEK RESERVOIR--WATER QUALITY MONITORING PROGRAM--1977-1980, May 1981.)

The SWRI program identified eight water-constituent levels and quality characteristics which exceeded the maximum-stringency water-quality standards set by EPA, the U.S. Public Health Service, and TDWR for drinking-water supply, aquatic life, irrigation, livestock and recreation uses. (References: page 6-58, paragraphs 2 and 3, subject report.) The water quality parameters identified were ammonia,

Response to Comments by the
Texas Department of Water Resources

1. We concur that inconsistencies occur in the water quality data provided to us for the area; this presents us with an unknown background for measuring effects. In response, EPA has placed a provision on the draft NPDES permit for monitoring of additional parameters as follows:

In-stream sampling, analysis and reporting shall be provided for phenols, ammonia (as N), pH, alkalinity, turbidity, total suspended solids, total dissolved solids and mercury on a once/3 month basis for Stream Sampling Stations TUSI 1, 2, and 5, as used in the Sabine River Authority's 1977-1980 Water Quality Monitoring Program. Grab samples shall be collected both prior to, and during, periods when discharges from the mine area are actually occurring.

Mr. Harden Wiedemann, Director
Page 2
April 25, 1983

Texas Department of Water Resources
Page 2

2. Please note the revised analysis of impacts to groundwater and surface water in Part III.

mercury, phenols, alkalinity, pH, total dissolved solids, total suspended solids, and turbidity. The proposed NPDES Permit presented in Appendix C, subject report, does not require the monitoring and regulation of any of these eight parameters, except pH and total dissolved solids. We believe that ammonia, phenols, and mercury also should be monitored in order to obtain sufficient data to clarify inconsistencies and resolve uncertainties regarding the ambient water quality of streams draining the mine project area, contained in earlier reports by SWRI and SRA. We believe this is essential due to the fact that almost the entire natural drainage from the watershed, and discharges from the mined portions of the 24,960-acre Martin Lake Mining Area "D" area flow into Lake Cherokee, a major drinking water supply source for several local communities. (Reference: Page 5-21, last paragraph; and Figure 6-12, page 6-59, subject report.) Therefore, we suggest that water quality sampling, analysis, and reporting program of the permittee include the continued utilization of Stream Sampling Stations, TUSI 1, 2, and 5, which were used in the Sabine River Authority's 1977-1980 Water Quality Monitoring Program. (References: Figure 6-13--SRA Surface Water Monitoring Sites, page 6-63, subject report; and Figure 1--Water Quality Monitoring Station Locations, presented in SRA Report: COMPILATION OF DATA--MILL CREEK RESERVOIR--WATER QUALITY MONITORING PROGRAM--1977-1980, May 1981, which was furnished to TDWR by the permit applicant's representative on April 15, 1983.) Further, we suggest that the water samples from these three sampling stations be obtained at least twice annually, analyzed for phenols, ammonia as nitrogen, and mercury, and results reported to the permitting agency. The stream samples should be collected both prior to, and during, periods when discharges from the mine area are actually occurring, and the evaluations should be made in light of earlier SWRI measurements in order to provide current verifiable data regarding ambient pre-mining water quality conditions, and also to resolve any present uncertainties regarding the post-mining stream water quality impacts.

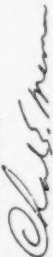
Pending the completion of our current comprehensive staff review of the hydrological aspects of TUCCO's application to the Railroad Commission of Texas (RRCT) for a mining permit, pursuant to the administrative agreement of October 29, 1979, between TDWR and RRCT, we hereby note and hold in abeyance our views regarding the following tentative determinations and recommendations presented in the subject DEIS, relative to: (1) the anticipated radius of influence, i.e., approximately 3,800 feet on groundwater levels, as a result of mining area dewatering operations; (2) the estimated number of existing water wells (i.e., 142) within the mining project boundaries, and the presently undetermined impact on wells outside the project boundaries which may be affected by the mining-area dewatering operations; (3) the possible potential effects of dewatering operations on existing annual average streamflows (i.e., approximately 10 percent reduction); and, (4) the possible desirability of requiring the applicant to "monitor existing wells downslip from earlier mined areas to develop accurate predictions of effects from dewatering by pumping in the northwest area before mining in that area. This should coincide with the

Mr. Harden Wiedemann, Director
Page 3, 1983
April 25, 1983

2. monitoring program required by the RRC." (References: Table 11, page 15; Section 6.3.1, pages 629 to 630; Subsection 6.3.1.1, pages 633; and, Subsection 6.3.1.2, pages 639 to 644.) TDWR shall furnish staff review comments to RRC after the detailed data on the applicant's proposed mining-area dewatering plan is furnished to TDWR by RRC for review, pursuant to currently proposed Sections 339.61 to 339.71 of the Texas Administrative Code (TAC).

Please advise if we can be of further assistance.

Sincerely yours,



Charles E. Nemir
Executive Director



COMMISSION
ROBERT H. DEAN, Chairman
A. SAM WALKER
JOHN R. BUTLER, Jr.

STATE DEPARTMENT OF HIGHWAYS
AND PUBLIC TRANSPORTATION
DEWITT C. GREER, STATE HIGHWAY ENGINEER
AUSTIN, TEXAS 78701

April 18, 1983

Draft EIS # 3-03-50-008
Martin Lake "D" Area
Lignite Surface Mine

Mr. Hadden Wiedemann, Director
Office of Planning & Intergovernmental Relations
Sam Houston Building
Austin, Texas

Dear Mr. Wiedemann:

Thank you for the opportunity to review the draft environmental statement covering the Martin Lake "D" Area lignite surface mine project proposed near Henderson in Rusk County.

Experience with similar operations in other areas has shown that the introduction of a number of heavy trucks and construction equipment will have an adverse effect on area highways. Although the mined lignite will be hauled to the power station on a private railroad, the area highways will be used to haul heavy equipment to and from the mine; lumber, topsoil, iron ore and gravel from the mine; crushed lime to the generating station; and flyash from the generating station. Many of these loads probably will require SDHPT permits. Even legal-weight loads have a cumulative destructive effect on the pavement structure of area highways. Farm to Market Roads designed to carry local traffic are especially affected.

Presently the Department has three projects in Rusk County to reconstruct roads damaged by overweight hauling. These three projects will rebuild over ten miles of farm roads at an average cost of \$80,000 per mile. Many other highways in the area also have been damaged and need repairs. It is anticipated that the proposed mining operation in Rusk County will continue the adverse effect on area highways.

Sincerely yours,

M. G. Goode
Engineer-Director

By: *Marcus L. Yancey Jr.*
Marcus L. Yancey, Jr.
Deputy Engineer-Director

cc: Clinton Spotts, Regional EIS
Coordinator Environmental
Protection Agency

RECEIVED
APR 21 1983
6AW-A

Response to Comment by
State Department of Highways and Public Transportation

I. Thank you for providing information specific to this project area.

Discussions with the State Department of Highways and Public Transportation (SDHPT) indicate that several methods could be useful in mitigating the impact of heavy trucks over the same roads. Contractual agreements have been effective in reducing the incidence of overweight vehicles reporting to the job site. This approach requires that suspect vehicles be individually weighed at the job site prior to delivery of materials and that overweight shipments be rejected. Maintenance agreements, between constructors and the SDHPT, could be negotiated which call for the constructors to provide maintenance on affected roads (SDHPT, 1983). TUGCO and the SDHPT do not presently have any agreement covering mitigation of road deterioration.

See the revised text in Part III regarding impacts and mitigation.

TEXAS AIR CONTROL BOARD

6330 HWY. 290 EAST
AUSTIN, TEXAS 78722
512/451-5711



JOHN L. BLAIR
Chairman
CHARLES R. JAYNES
Vice Chairman

BILL STEWART, P. E.
Executive Director

VITTORIO K. ARGENTO, P. E.
BOB G. BAILEY
FRED HARTMAN
D. JACK KILIAN, M. D.
OTTO R. KUNZE, Ph. D., P. E.
FRANK H. LEWIS
R. HAL MOORMAN

Response to Comments by the
Texas Air Control Board

- I. The Texas Air Control Board has written a letter exempting the Martin Lake "D" area facilities site. This letter appears in Appendix B.

April 12, 1983

RECEIVED

APR 13 1983

Mr. Harden Wiedemann, Director
Office of Planning and
Intergovernmental Relations
Intergovernmental Section
P. O. Box 13561
Austin, Texas 78711

STATE OF TEXAS
AUSTIN

Subject: Draft Environmental Impact Statement for the
Martin Lake D Area Lignite Surface Mine Project
Proposed near Henderson, in Rusk County, Texas by
the Texas Utilities Generating Company
EIS Number 3-03-50-008

Dear Mr. Wiedemann:

It is the policy of the Texas Air Control Board (TACB) not to require permits for surface mining. However, associated stationary sources of air contaminant emissions such as crushers, classifiers, material handling facilities, and power plants do require TACB permits. Since crushers and material handling facilities are planned for this site, the TACB must be contacted for the purpose of determining whether a construction permit or an exemption will be required for the proposed facility. Additionally, a permit to operate must be applied for within sixty days after the facility has begun operation.

The proposed facility is in a location that meets the national primary and secondary air quality standards for carbon monoxide, nitrogen dioxide, sulfur dioxide and particulates (TSP) and is, therefore, in a designated "attainment area" for these criteria pollutants. Rusk County has been designated "unclassified" for ozone. There has been no designation established for lead.



Celebrating 150 Years of Texas Independence 1836-1986

Mr. Harden Wiedemann

-2-

April 12, 1983

Mr. Richard Leard, P.E., Supervisor of Region 12 in Tyler, has been contacted and would be happy to answer further questions. You may reach him at (214) 595-2639.

Thank you for the opportunity to review this document. If we can be of further assistance, please contact me or our regional staff.

Sincerely,



Roger R. Wallis, Deputy Director
Standards and Regulations Program

cc: Mr. Richard Leard, P.E., Regional Supervisor, Tyler

TEXAS PARKS AND WILDLIFE DEPARTMENT



COMMISSIONERS

PERRY R. BASS
Chairman, Fort Worth
JAMES R. PAYTON
Vice-Chairman, Palestine
EDWIN L. COX, JR.
Athens

CHARLES D. TRAVIS
EXECUTIVE DIRECTOR
4200 Smith School Road
Austin, Texas 78746

COMMISSIONERS

W. B. OSBORN, JR.
Santa Elena
WM. O. BRAECKLEIN
Dallas
WM. M. WHEELER, III
Houston

May 3, 1983

Mr. Harden Wiedemann, Director
Office of Planning and Intergovernmental
Relations
Intergovernmental Section
P. O. Box 13561
Austin, Texas 78711

Re: Martin Lake D Area Lignite Surface Mine
Henderson, Rusk County, Texas
EIS # 3-03-50-008

Dear Mr. Wiedemann:

This agency has reviewed the above-referenced document and offers the following comments.

The information concerning wildlife resources provides an adequate assessment of current conditions. However, the main concern of this agency pertains to reclamation following mining. Utilization of this culture of coastal bermudagrass will not provide the minimum life requisites for many wildlife species. Reclaiming the mined area to vegetative cover comprised of at least 30% woody cover would lessen adverse impacts upon extant wildlife resources.

Concerning aquatic wildlife, adverse impacts upon species important to public use are not apparent. However, surface water discharges should be monitored to insure that downstream fishing sites are protected from the adverse effects of sedimentation, turbidity, and releases of trace metals.

Response to Comments by the
Texas Parks and Wildlife Department

1. Thank you for the comments. Your assistance and technical expertise is appreciated.
2. EPA concurs and has placed a provision on the permit for monitoring of additional parameters in streams.

MAY 5 1983

OFFICE OF THE COMMISSIONER
MAY 5 1983



Mr. Harden Wiedemann, Director
Page -2-

I appreciate the opportunity to review and provide comments on this project.

Sincerely,


Charles B. Travis
Executive Director

CDT:RWS:jlh

cc: Jerome Johnson, U.S. Fish & Wildlife Service
Fort Worth, Texas



Response to Comment by the
Texas Historical Commission

- I. The comments and assistance on cultural resources considerations are appreciated. Table 6-18 (pg. 6-113) and pg. 6-116 have been revised to reflect the site number and potential eligibility of the Vinson Plantation. See Part III.

Mr. Dick Whittington, P.E.
Regional Administrator
U.S. Environmental Protection
Agency
Region VI
1201 Elm Street
Dallas, Texas 75270

Attn: Clinton B. Spotts
Regional EIS Coordinator

Re: Draft EIS - Martin Lake D Area
Lignite Surface Mine, Henderson,
Rusk County, Tx (EIS #3-03-50-008)

Dear Sir:

We have reviewed the document referenced above pursuant to the National Historic Preservation Act of 1966, as amended and its implementing regulations, 36 CFR, Part 800. We continue to coordinate and consult with all parties on matters of cultural resources in accordance with the terms of the Memorandum of Agreement. Page 6-116, The Vinson Plantation is potentially eligible for the National Register of Historic Places, its trinomial site number is 41BK128, these points should be noted in the FEIS.

We look forward to future consultation and coordination. Thank you for the opportunity to comment.

Sincerely,

LaVerne E. Herrington
LaVerne Herrington, Ph.D.
Deputy
State Historic Preservation
Officer

PEP/LH/lft

cc: Hadden Wiedemann, Office of the Governor
Jeanine Peckham, EPA, Dallas Office

The State Agency for Historic Preservation

Garry Mauro
Commissioner
General Land Office



April 15, 1983

Mr. Harden Wiedemann, Director
Office of Planning and Intergovernmental
Relations
Intergovernmental Section
P. O. Box 13561
Austin, Texas 78711

Re: Draft EIS # 3-03-50-008
Martin Lake D Area Lignite Surface Mine --
Henderson, Rusk County, Texas

Dear Mr. Wiedemann:

The General Land Office appreciates the opportunity to review the referenced report. It has been determined by my staff that state lands will not be involved or affected by the Martin Lake D Area Lignite project; thus no substantive comments will be offered.

Sincerely,

Mike Hightower

Mike Hightower
Assistant Land Commissioner

MH/SD/jb

Stephen F. Austin Building
1700 North Congress Avenue
Austin, Texas 78701
(512) 475-2071

RECEIVED

APR 18 1983

OFFICE OF PLANNING AND INTERGOVERNMENTAL
RELATIONS

Response to Comment by the
General Land Office, State of Texas

1. The letter is appreciated and the comment is noted.



RECEIVED

APR 7 1983

OFFICE OF THE REGIONAL
MANAGER

SERVING A FOURTEEN COUNTY REGION

3800 STONE ROAD • KILGORE, TEXAS 75662 • 214/984-8441

April 5, 1983

Mr. Harden Wiedemann, Director
Office of Planning and Intergovernmental Relations
Intergovernmental Section
P. O. Box 13561
Austin, Texas 78711

Re: EIS #3-03-50-008

Dear Mr. Wiedemann:

The East Texas Council of Governments (ETCOG) has reviewed the Draft Environmental Impact Statement (EIS) on the Martin Lake "D" Area Lignite Surface Mine Project proposed near Henderson, in Rusk County, Texas by the Texas Utilities Generating Company.

The proposed project is not in conflict with adopted areawide policies, goals, and objectives and is in conformance with the adopted ETCOG Regional Land Resource Management Plan and Tri-County Growth Management and Housing Plan. Therefore, ETCOG gives the proposed project favorable comment and recommends the preparation of the final EIS.

Sincerely,

Glynn J. Knight

Glynn J. Knight
Executive Director

GJK/VE/lm

cc: Commissioner Talmadge Mercer
Rusk County

Jack Dickerson, City Manager
City of Henderson

Response to Comment by the
East Texas Council of Governments

1. The comment letter is appreciated and comments are noted.



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Project Review

Post Office Box 2088
ALBUQUERQUE, NEW MEXICO 87103

ER-81/358

MAY 03 1983

Mr. Clinton B. Spotts
Regional EIS Coordinator
Environmental Protection Agency
1201 Elm Street
Dallas, Texas 75270

RECEIVED

MAY 6 1983

GES

Dear Mr. Spotts:

We have reviewed the draft environmental impact statement (EIS) for the Martin Lake D Area Lignite Surface Mine, Henderson, Rusk County, Texas and offer the following comments.

General Comments

In general, we find that the EIS accurately describes existing resources of the project area and adequately displays the proposed project's impacts upon these resources. The State of Texas has assumed primary responsibility under the Surface Mining Control and Reclamation Act of 1977 for regulating surface mining in Texas. The Office of Surface Mining still maintains an oversight role in assuring that coal mining in Texas complies with that Act.

Although we are concerned with many of the applicant's selected alternatives in the development of this project (i.e., the use of mixed overburdens, mining of fragile bottomland hardwoods and wetlands, land use changes from forestry and grazing land to pastureland), these options appear to be consistent with surface mining laws and regulations. We believe many of the selected alternatives, especially when considered cumulatively with other surface mine projects within the Texas lignite region, will have adverse, long-term impacts particularly on the quantity and quality of fish and wildlife habitats. To minimize these impacts the appropriate regulatory authorities should closely monitor the status of these large scale mining projects with respect to their impacts upon fish and wildlife resources and take whatever measures are necessary to ensure that these resources are adequately protected.

The project will have minimal impacts upon other mineral resources such as clay, gravel, oil and gas.

The project as proposed will not impact any present, proposed, or potential unit of the National Park System, the National Wild and Scenic Rivers System, or the National Trail System. The memorandum of agreement for consideration of cultural resources should prove to be an effective tool in preserving cultural resources in the project area and we complement the Environmental Protection Agency (EPA) on its preparation.

Response to Comments by the U.S. Department of the Interior

1. Comment noted, EPA concurs.
2. Comment noted.
3. A map showing the relationship of mining areas "A", "B", and "C" to area "D" is included in Part III. The "A", "B", and "C" areas were considered in addressing cumulative impacts to all resources as stated on pp. 6-167 and 6-168 of the DEIS. Because areas "A", "B", and "C" are located so close to area "D", the potential for cumulative impacts to geology and topography, soils and prime farmland, ground water, surface water, ecology, archaeological and historical resources, air quality, land use and recreation, and socioeconomic factors does exist. These cumulative impacts are more evident when considering the "D" area in relation to the "A", "B", and "C" areas than with the other projects discussed in the section on cumulative impacts.
4. A table presenting the acreages affected by project activities has been provided as Table I-2. A summary table listing acreages for land use and vegetation has been provided as Table III-1. We trust this clears up the presentation.
5. The railroad will cross SH-43 above the traffic on an overpass constructed such that traffic flow will not be affected. In addition, the railroad will cross two Farm to Market roads and three unnamed country roads. None of the crossings will be at-grade and traffic flow will not be affected during operations. Construction of all crossings may affect traffic flow temporarily. See Part III for detailed information on the crossings.
6. EPA concurs.
7. EPA concurs that when the preferred alternative is known it should be included in the draft statement. This project is complicated regarding disclosure in that the significant aspects of mining have not yet undergone review by the state agency (RRC) which has been delegated authority/responsibility to see that mining requirements are enforced. The most environmentally-sound and EPA-preferred alternative is discussed in Part IV. Obviously, the information made available in many cases is not site specific and, we believe, could not comply with requirements for a specific mining area permit. Of major concern is the alternative proposed for a specific handling using mixed spoil for a revegetation medium--major justifications required by federal surface mining regulations are not available for review or disclosure.
8. Section .384 of the RRC regulations state (in part) that, "... all disturbed areas shall be returned to their approximate original contour." Historically, compliance with this section has been determined by comparison of premining topography maps with topography maps of disturbed areas which are made prior to the third year of extended responsibility (i.e., the third year after land has been placed under bond to ensure reclamation). Premining maps are typically produced (at the applicant's request) by an independent aerial survey company. Aerial photographs of the area are used, in conjunction with surveyed ground-control points, to determine the topography. The postmining topography maps are developed by the permittee using aerial photos of the disturbed areas and the surveyed ground-control points to determine contour lines. Submission of such maps prior to the third year of extended

Specific Comments

Section 1.2, PURPOSE AND NEED and Section 6.18, CUMULATIVE IMPACTS - A map showing the location of the "A", "B", and "C" area mines is needed to show their relation to the "D" area mine, and the possibility for cumulative impacts to some resources.

Section 1.4, PROPOSED PROJECT - It would be helpful if the actual acreage to be disturbed by mining, haul roads and ancillary structures were clearly shown throughout the EIS.

Section 5.1.3, Transportation Systems and Routes - It is not clear how the railroad will cross SH-43. It is stated that it would not be a grade crossing, but would there be a bridge installed on the highway? What would these impacts be?

Section 5.1.8, Other Project Components - The reference to Figure 1-1 should be to Figure 1-2.

Section 5.3, ALTERNATIVES AVAILABLE TO EPA - This section should indicate the preferred alternative. If certain conditions (stipulations) are to be attached to the permit, they also should be indicated. The public should have a chance to comment on them.

Section 6.1.3, Impacts of Project Alternatives - It would be better to include a map of the proposed postmining topography instead of referencing a map of the existing topography.

Section 6.2.1.5, Group V - Miscellaneous Land Types - It appears the reference to Figure 6-6 should be Figure 6-5.

Section 6.3, GROUND-WATER RESOURCES - Leakage through the aquitard into the upper Wilcox aquifers is indicated as occurring under existing conditions (e.g., p. 6-33, 6-34, 6-38; figs. 5-3, 6-4). As dewatering of the affected upper Wilcox aquifers progresses over the life of the project, differences in head between the deeper Wilcox aquifers and the upper Wilcox aquifers will be increased; presumably leakage will also increase. We suggest that the statement address both existing leakage and any changes in upward leakage that may occur as a result of the project. It would be helpful if current heads existing in the upper and lower aquifers were compared in the EIS including a map of the potentiometric surface of the shallow aquifer, inasmuch as appendices F and G are not available. Any pertinent observations from experience in mining in similar situations would aid in the assessment. It is because leakage from the lower aquifers might result in significant impacts beyond the project boundaries that the potential for leakage during mining should be addressed.

TABLE 6-5, GROUND-WATER SAMPLES COLLECTED BY TUGCO - The volumes for TDS are suspect since they are less than the sum of sulfates and chlorides. This should be checked.

Section 6.3.3.3, Reclamation - The second paragraph should read "Alternatives 2 and 4 . . . (than 1 or 3) . . .".

responsibility allows determination of compliance with Section 384 and is one step toward release of an area from bonding. Surface mining with draglines typically results in postmining topography that is similar to the premining conditions. Major features such as hills and valleys are present after mining but the general contour of the land is smoother than the premining contour. The elevation is generally a few feet higher after mining because of the initial volume increase (bulking) of the spoil.

EPA concurs.

Present downward leakage is minor since the only connections between upper and lower sand bodies are sand channels and the deeper sands are confined by clay and lignite strata. It can be seen on Figure 6-3 and 6-4 that the minor sand channels (shown as a dashed pattern on the figures) which connect the upper and lower sand bodies are discontinuous. At no point on the cross section could a particle of water move vertically in a direct line more than about 100 feet. Vertical movement would be prevented by either clay (in white) or lignite (in black on the figures) strata, or by both types of strata. In several places on the figures, the small lateral extent of the sand bodies is apparent since a sand body of a few hundred feet in width has lignite or clay strata extending horizontally from both sides. Thus, not only would water moving vertically have to frequently move laterally before continuing its vertical movement, but the channels providing vertical connections are limited in area making vertical movement more difficult. There are numerous clay and lignite strata below the upper mineable lignite seams as shown in Figures 6-3 and 6-4. The clay strata vary individually in thickness from about 2 to 20 feet. Cumulatively they have a thickness of over 50 feet and extend over the entire area. Analysis of electric logs taken from the first five-year mining area shows that these clays are typical of the low permeability clays characteristic of the Wilcox formation. To obtain specific information regarding leakage, it would be necessary to run pumping tests with a well installed to the lowest lignite seam to be mined and observation wells completed in the first significant aquifer below the seam to be mined and in the shallow aquifer above. If no drawdown was detected in the lower well, then it would be assumed there is no connection. TUGCO states they have not experienced problems with upward leakage. Although not shown on a map, the current heads in the upper sand bodies are stated as being between 5 and 50 feet below ground level with most levels between 5 and 15 feet (DEIS, pg. 6-30). Figure 6-8 shows that the potentiometric head of the deeper Wilcox sands varies from less than 330 feet mean sea level (msl) in the northwestern part of the project area to just over 380 feet msl in the southeastern portion. Figures 6-3 and 6-4 show that the lignite to be mined varies from about 320 feet msl to just over 380 feet msl. Dewatering of the upper Wilcox sands during mining would decrease the head to approximately the top of the potentiometric head of the lower sand bodies. In areas not containing connecting channels, no leakage problems would exist. Where mining occurs in the vicinity of the localized sand channels of restricted areal extent, two possibilities exist. One, if the lignite lies above the potentiometric head of the lower sand bodies, then conditions of "no flow" would exist and downward leakage would cease. Two, if the lignite lies below the potentiometric head of the lower sand bodies, lowering the head of the upper sand body would allow upward leakage to occur and further dewatering would be required. However, because of the small head difference (i.e., the lignite only a few feet below the potentiometric head) and the restricted areal extent of the sand channels, the amount of additional dewatering required would be minor and the cone of depression would be limited. The possibility of impacts significantly beyond the project boundaries and monitoring to determine such impacts were discussed on pg. 6-40 of the DEIS.

13 Section 6.4.1.2, Hydrologic Characteristics - The soil associations discussed in this section should be correlated to the soil groups described in the soils section.

14 Section 6.5.3, Impacts of Project Alternatives - It is noted in this section of the EIS that approximately 1,136 acres of bottomland hardwoods, wetlands, and hydric plant communities occur in the mining blocks. An additional 96 acres of floodplains and wetland plant communities would be impacted by ancillary facilities construction.

15 The U.S. Fish and Wildlife Service (FWS) classifies these bottomlands and wetlands as Resources Category 2, of high value for wildlife evaluation and species and scarce or becoming scarce (FR 46(15): 7644-7663, January 23, 1981). To minimize long-term losses to these diverse, productive wildlife habitats, we recommend "in-kind replacement" of floodplain/wetland communities during the reclamation phase of the project. Specifically, the hydrologic balance of these wetland areas should be restored, appropriate wetland vegetation established, and management practices undertaken to promote the long-term recovery of these ecosystems. These practices are required to ensure the biological integrity of these important habitats pursuant to the surface mining performance standards of the Texas Railroad Commission (Surface Coal Mining Regulations, Sections 342 and 380, respectively). We recommend that the final EIS discuss more concisely what measures will be undertaken by the applicant to restore these impacted floodplain and wetland habitats.

16 Section 6.18.9, Socioeconomics - The last sentence on this page is incomplete.

APPENDIX B. MEMORANDUM OF AGREEMENT

17 Two references in the agreement should be changed or noted for future reference. On page B-3, the correct address for the National Architectural and Engineering Record (NAER) for projects in Texas should be Chief, Division of Cultural Resources, National Park Service, Rocky Mountain Region, P. O. Box 25287, Denver, Colorado 80225.

18 Also on page B-3, the reference to the Interagency Archeological Service should be changed to Interagency Resources Division, National Park Service, Department of the Interior, Washington, D.C. 20240.

19 APPENDIX C, Preliminary NPDES Permit - On August 9, 1982, the TWS provided comments to EPA on the proposed draft NPDES permit for this facility. The comments recommended that the "NPDES permit be conditioned to require that any retention ponds, discharge structures, etc. making up outfall 001 not be located in wetlands as designated by the Corps of Engineers," unless individual authorization is obtained from the Corps. We request that Part III of the NPDES permit incorporate this provision. A comparable stipulation was recently included in the nearby South Hallsville Lignite Surface Mine NPDES permit.

We hope these comments will be helpful in the preparation of the final EIS.

Sincerely,

Raymond P. Churan
Raymond P. Churan
Regional Environmental Officer

11 The TDS values in Table 6-5 are incorrect. The chloride and sulfate values are correct and are within the range in analyses of other groundwater samples from the area. Apparently, incorrect calculations resulted in TDS values (shown in Table 6-5) which are approximately 1/10 of the real value. Revised Table 6-5 in Part III includes the corrected TDS values.

12 EPA concurs.

13 The Hydrologic Group Classifications were determined for the soil associations designated by the SCS. Four soil associations make up the total project area and contain nine major soils. Each of the associations fall into a different Soil Group (Section 6.2.1.1, Table 6-1, DEIS) while only two (B and C) Hydrologic Group Classifications are represented. The Kirvin-Bowie-Cuthbert association (Soil Group II) and the Natchiche-Mantachie association (Soil Group IV) are in the Hydrologic Group C while the Natchiche-Trowick (Soil Group I) and Libbert-Tenaha (Soil Group III) associations are in Hydrologic Group B.

14 Table 1-2 has been prepared to help clear up confusion on acreages. Within the mine blocks, 1092 ac of bottomland hardwood forests (1039 ac) and hydric communities (53 ac) occur. These 1092 ac include wetlands identified by the COE. Activities to occur within the mine blocks are: construction of ancillary facilities; the Dry Creek diversion; construction of haul roads; and pipeline/transmission line ROW relocations. These activities would affect about 42 ac of wetlands as determined by the COE. An additional 42 ac would be affected by mining for a total of 84 ac of wetlands. Construction of the railroad and transmission line between the power plant and mine would affect about 24 ac of bottomland hardwood forest and hydric communities (some of which might be classified as wetlands). Mining activities would affect an undetermined acreage of bottomland hardwood forest and hydric communities which are not wetlands.

15 The RRC regulations (.337-.339, .341-.347, .384-.388 and .390-.396) require re-establishment of the hydrologic balance after mining and/or stream diversions as well as topsoil replacement, backfilling, grading and revegetation of disturbed areas. A major feature of restoration is the re-establishment of the hydrologic balance. Backfilling and grading to approximate original contour is a requirement for all areas. TUGCO has not made a commitment to specific measures which could ensure compliance to these regulations for these areas.

16 The last sentence on pg. 6-171 (concluding on pg. 6-172) contains two typographic errors. The sentence should read (typographic errors underlined), "Two of the projects (the proposed plant/mine in Harrison County and the Troup project) are in planning stages and are not scheduled to begin in the near future."

17 The address has been corrected. See Part III.

18 The address has been corrected. See Part III.

19 To ensure that specific plans and commitments are made for mitigation on disturbed designated wetlands, EPA has placed the following condition on the proposed permit: "There shall be no discharge of dredge and fill material into wetlands as designated by the Corps of Engineers unless TUGCO submits specific plans for each wetland area discharge proposed, to the Corps of Engineers for authorization by the Corps under Section 404 of the Clean Water Act."

THIS FORM CAN BE USED TO SUBMIT COMMENTS RELATED TO THE ENVIRONMENTAL
IMPACT STATEMENT ON THE MARTIN LAKE "D" AREA LIGNITE SURFACE MINE IN
HENDERSON, RUSK COUNTY, TEXAS.

1. The "track record" of Areas A, B & C previous
mined & in the process of reclamation should
adequately be taken into consideration in
the granting or failing to grant strip mining
authority to Tugco.

2. Net income from Tugco is also cited
as a prerequisite to Rusk Co. This is
debatable since Tugco constantly adds
less tax on their land not more! The
rest of the individuals who live here will
be expected to pick up the tab on their
taxes. Tugco, like others only pass their
tax on to the consumer - you fold
it up! Frankly, I do not want to pay
higher electric bills so that their outrageous
purchase most of Rusk County as a tax
revenue expense!

Name Gus L. Brown RECEIVED
Address Rt. 4, Box 732 MAY 5 1983
Henderson, Texas 75652 GEB
(Secure folded sheet with tape or glue)



Response to Comments by
Mr. and Mrs. Gus L. Brown

1. The Texas Surface Mining and Reclamation Act (the Act) and RRC regulations require that an applicant's past performance be considered before a permit is issued. The RRC determines if an applicant's records show "a demonstrated pattern of willful violations of the Act" and, if so, the RRC must deny a permit to the applicant. Compliance is partially a function of enforcement by the RRC. A list of violations at TUGCO's three existing operational mining sites, as shown in a recent application submitted to RRC for construction of the railroad loading facilities, is included in Appendix B. The monthly, self-monitoring reports required by NPDES permits for TUGCO's three existing mine sites show numerous violations of the Total Suspended Solids (TSS) discharge limits from sediment. These were proposed to be during storm events, and not under dry weather conditions. Recently (October 13, 1982), EPA published new rules on allowable TSS concentrations during storm events. The new rules do not consider such TSS concentrations during storm events as violations. Based upon overall potential impacts to the "D" area site, EPA is considering this permit area as a "new source."
2. The Rusk County Tax Collector states (1983) that taxes are levied against land that TUGCO owns or leases in the same manner as for other taxpayers. Land which is being mined will be taxed at full market value but not above the value of the land itself. Land which contains improvements (i.e., mine facilities, railroad corridor, houses, etc.) will be taxed based upon the value of the improvement. TUGCO could not qualify for homestead exemptions for residences it owns. Other lands (not being mined and not containing improvements) would be taxed either at full market value or might qualify for a lower rate based upon productivity (i.e., agricultural exemption). Over time appeals could be made by TUGCO (as by anyone else) for reclassification of its property and reduction of its tax rate (possibly for an agricultural exemption).

THIS FORM CAN BE USED TO SUBMIT COMMENTS RELATED TO THE ENVIRONMENTAL
IMPACT STATEMENT ON THE MARTIN LAKE "D" AREA LIGNITE SURFACE MINE IN
HENDERSON, RUSK COUNTY, TEXAS.

Mr. and Mrs. Gus L. Brown
Page 2

3. Comment noted.
4. Comment noted. Address has been changed.

3. *Spoke total destruction of Renewable Resources
(timber, trees, topsoil, water, wildlife) cannot be
justified for strip mining and should not be
allowed by our EPA. Alternate energy sources
are available (gas, solar, nuclear) and should
replace coal via the strip mine method.*

Mrs. G. L. Brown
Rt. 4, Box 281-A
Henderson, TX 75652

Gus L. Brown
Route 4
Henderson, TX 75652

*You may correct
your address list
by deleting these
two & adding:*

*Mr. & Mrs. Gus L. Brown
Rt. 4, Box 732
Henderson, Texas
75652.*

Thank you!

Fold _____

RECEIVED

MAY 5 1983

6ES

Mr. & Mrs. Gus L. Brown
Name _____
Address *Rt. 4, Box 732*
Henderson, Texas 75652
(Secure folded sheet with tape or glue)



Response to Comment by
Texas Electric Service Company

1. Comments are noted. No response is necessary by EPA.

May 2, 1983

Clinton B. Spotts
EIS Coordinator
U.S. Environmental Protection Agency
1201 Elm Street
Dallas, Texas 75270

Dear Mr. Spotts:

Texas Electric Service Company (TESCo) appreciates the opportunity to comment on the EPA's draft environmental impact statement for Texas Utilities Generating Company's (TUGCo) Martin Lake D Area Lignite Surface Mine near Henderson in Rusk County, Texas. TESCo provides electric power to 78 incorporated cities and has 561,486 customers in an area of 18,500 square miles in central and west Texas. Like TUGCo, we are an operating company in the Texas Utilities system who is concerned with the cost of providing electricity to our customers.

Lignite coal is the least expensive fuel which TU uses to produce electricity. Over 55 percent of all electric power generated by TU is produced by burning lignite. Because of lignite's low cost, we plan to take full advantage by generating as much electricity in the future with this fuel. We have reviewed the EPA's draft EIS and it is our hope that the subsequent permit will be issued so that we can begin using this valuable new fuel supply and avoid any additional costs to our customers.

Sincerely,

W. Keel
W. Keel
Superintendent
of Power

ddb

cc: J. R. Robertson

RECEIVED

MAY 5 1983

6 ES

6AX-63
United States Environmental
Protection Agency
Region VI
Dallas, Texas 75270

5-2-83

ref; TUGCO impact study for Henderson, Tx

Your report is inaccurate in that my water well
is not shown in your report.

My well is active.

I know of other wells that are not included in
your report

2. I do not believe that waste water should be
placed into creeks and other water because it
will pollute the land banks etc.

R. Allen Green
R. Allen Green
RT 4 box 702
Henderson, Tx. 75652

Response to Comments by
Mr. R. Allen Green

1. EPA appreciates notification concerning wells not shown on the map. Specific data on your well and others, including locations, would be helpful. The information has been given to TUGCO for use in updating the water well map to be included in the RRC permit application. If TUGCO disturbs or interrupts your water supply by mining activities, RRC regulations require that they replace that water supply by measures for replacement include drilling a new well, providing other service (for example, via a water supply company) or monetary compensation.
2. Comment noted.

RECEIVED

MAY 4 1983

GES

TEXAS UTILITIES SERVICES INC.

2000 DOWS AVENUE DALLAS, TEXAS 75201-1001

May 3, 1983

Regional Administrator
U.S. Environmental Protection Agency
Region VI
1201 Elm Street
Dallas, Texas 75270

Attn: Mr. Clinton Spotts

Martin Lake Mining Area "D"
Draft Environmental Impact Statement
Review Comments

Dear Sir:

We have reviewed the Draft Environmental Impact Statement dated March 1, 1983, for our proposed Martin Lake Mining Area "D" project and wish to provide the following comments.

Our review indicates the draft EIS provides an accurate description of TUGCO's project plans and the need for development of the mine. The document also presents a complete and informative evaluation of the existing environment of the project area.

While we do not agree with several of the predictions concerning the probability of occurrence and the severity of some of the impacts, we believe that all the significant environmental impacts have been identified. It is evident that the requirements of state and federal surface mining regulations and provisions of the preliminary NPDES permit will ensure that any potential adverse impacts are minimized or prevented.

We are not submitting specific comments at this time on the preliminary permit presented in the DEIS. We will comment at the appropriate time when a draft permit is prepared.

Please let us know if you have any questions concerning these comments. We are prepared to provide whatever assistance is needed from the Company in responding to other EIS comments.

Very truly yours,

H. B. Coffman
H. B. Coffman

JBR:11

Response to Comment by
Texas Utilities Services, Inc.

I. We appreciate the letter and note the comments.



DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P. O. BOX 17300
FORT WORTH, TEXAS 76102

REPLY TO
ATTENTION OF:

Office Operations Branch

April 29, 1983

Mr. Clinton B. Spotts
U.S. Environmental Protection Agency
1201 Elm Street
Dallas, Texas 75270

Dear Mr. Spotts:

This is in regard to the Draft Environmental Impact Statement (DEIS) for Martin Lake Area D Lignite Mine proposed by Texas Utilities Generating Company. The U.S. Army Corps of Engineers (COE) working as a cooperating agency with the Environmental Protection Agency has completed a review of the DEIS.

The DEIS adequately assesses the impacts of the project and is correct in regard to COE jurisdiction and permit requirements under Section 404 of the Clean Water Act. Although the DEIS provides little mitigatory measures for the loss of wildlife habitat, we believe the applicant has made a conscientious effort to avoid adverse impacts to wetlands and other waters of the United States.

Thank you for this opportunity to comment on the document. If you have any questions concerning this letter or our comments, you may contact Alan Brackney at FTS 334-4624.

Sincerely,

Allie J. Major
Chief, Operations Division

Response to Comments by the
Department of the Army, Fort Worth District Corps of Engineers

I. We have determined that there is a lack of a specific plan and commitment to restoration of sensitive areas such as jurisdictional wetlands under Section 404 of the Clean Water Act.

To ensure that there will be restoration of these areas that have important wildlife habitat and water quality improvement functions, the following condition is placed on the permit:

There shall be no discharge of dredge and fill material into wetlands as designated by the Corps of Engineers unless TUGCO submits specific plans, for each wetland area discharge proposed, to the Corps of Engineers for authorization by the Corps under Section 404 of the Clean Water Act.

RECEIVED

MAY 2 1983

6 ES

THIS FORM CAN BE USED TO SUBMIT COMMENTS RELATED TO THE ENVIRONMENTAL
IMPACT STATEMENT ON THE MARTIN LAKE "D" AREA LIGNITE SURFACE MINE IN
HENDERSON, RUSK COUNTY, TEXAS.

Response to Comment by
Mr. Ervin B. Henrichs

1. Two parcels of your land were located within the proposed first five-year mining area. A third parcel was not located. The location of the well noted in your letter is unknown based on available information. Specific data on your well(s) and its location would be appreciated. If TUGCO disturbs or interrupts your water supply by mining activities, RRC regulations require that they replace that water supply. Measures for replacement include drilling a new well, providing other service (for example, via a water supply company) or monetary compensation.

Fold _____

I have 3 spots of land in Martin Lake D
area. One spot did have a house which
has been down. It has a summer well.
Will they mine that pasture.
If so will they replace the well.
Thank you

11-49

Fold _____

Name ERVIN B HENRICHS
Address 14719 OLIN RD
TOMBALL TX 77375

(Secure folded sheet with tape or glue)

Response to Comments by
Mr. R. K. Barrett

I am concerned about two things:

1. Referring to the last sentence of the second paragraph on page 5-18 of the EIS - in the same paragraph it states that TUGCO owns in fee some 5060 acres. By the time the mining begins they will probably own many more acres. I am concerned about the disposition of these lands. What is to prevent TUGCO from selling all of the acreage to one or more timber grazing corporations? I have not seen any statement that they would be sold to the owners or their heirs or any plan at all.

Fold

2. What about all of the fence corners, property lines, and other monuments that have been in place for over 100 years? Will they be replaced?

Name R. K. Barrett

Address P.O. Box 253

Henderson, Tex 75612

(Secure folded sheet with tape or glue)

1. Neither the Public Utilities Commission (PUC, 1983) nor the Railroad Commission of Texas (RRTC, 1983) have regulations restricting the disposition of land owned in fee. Disposition could include sale to private individuals. But it could also include trading for acreage in future mining areas or sale to non-individuals (i.e., companies).
2. Official monuments, such as property corner markers, highway right-of-way markers and National Geodetic Survey (NGS) markers must be re-established. On leased land the original property lines will be re-established after completion of mining. TUGCO-owned land will be surveyed and divided according to requirements for disposition of the land. The original corners and boundaries may not be re-established. Highway right-of-way markers will be re-established when the road is replaced, or established in a new location if the road is relocated by the State Department of Highways and Public Transportation. Any NGS monument which is disturbed would be re-established by NGS. The quality of all surveying done in Texas is monitored by the Texas Board of Land Surveyors under the authority of the Land Surveying Practices Act of 1979. Surveying is monitored by registration of surveys, release of manuals and guidelines to determine acceptable practices and, in some cases, by an investigation and a hearing in response to complaints to the Board from a third party (or the Board may institute proceedings on its own behalf). See revisions to the text in Part III.

The comments are appreciated and revisions to page 5-18 of the DEIS are included in Part III.

RECEIVED

APR 29 1983

6 ES



TEXAS POWER & LIGHT COMPANY

1511 Bryan Street • P.O. Box 226331 • Dallas, Texas 75266

G. BERMAN
VICE PRESIDENT

April 27, 1983

Mt. Clinton B. Spotts (GESP)
U.S. Environmental Protection Agency
First International Building
1201 Elm Street
Dallas, TX 75270

Re: Martin Lake "D" Area Lignite Surface Mine
Draft Environmental Impact Statement

Dear Mr. Spotts:

Texas Power & Light Company is an investor owned public utility serving over 750,000 customers in 51 counties of north, central, and east Texas. TPL is a joint owner of the Martin Lake Steam Electric Station and, thus, has an interest in the referenced Environmental Impact Statement. The Martin Lake "D" Area Lignite Surface Mine would supply part of the fuel source required for the generation of electricity at Martin Lake S.E.S. to meet the continued need of our customers.

We believe that the draft EIS adequately addresses the environmental concerns that are associated with the project and urge the Agency to finalize the EIS.

We appreciate the opportunity to comment on the draft EIS and request your consideration of our comments.

Sincerely yours,

G.Berman:ln

Response to Comment by
Texas Power & Light Company

1. The comments are noted; no response is necessary from EPA. Your letter is appreciated.



DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

APR 25 1983

Centers for Disease Control
Atlanta GA 30333
(404) 452-4257
April 25, 1983

FOR

RECORD

Dick Whittington, P.E.
Regional Administrator, Region VI
U.S. Environmental Protection Agency
1201 Elm Street
Dallas, Texas 75270

Dear Mr. Whittington:

We have reviewed the Draft Environmental Impact Statement for Martin Lake D Area Lignite Surface Mine, Henderson, Rusk County, Texas. We are responding on behalf of the U.S. Public Health Service.

The lignite seam to be mined is contained in the shallow ground-water system. It appears that the shallow aquifer system, particularly the upper Wilcox, is a primary source of ground water in the project area. Approximately 142 active wells are used for domestic and stock use. Although the trend is shifting away from the upper Wilcox to use of the deeper Wilcox aquifer, some of these wells will be eliminated and other wells indirectly affected during construction. It is stated on page 6-47 that the "wells eliminated by mining would be compensated for under terms of the lease agreement." The final statement should identify what compensation measures are applicable. Specifically, what alternative water supply would these people use if their wells are eliminated?

A second concern regarding ground water is the potential for the release of chemical constituents from the overburden into the ground water. "Some layers of the overburden contain concentrations of certain constituents (e.g., pyrites) which may cause short-term adverse impacts . . ." "It is anticipated that concentrations exceeding water quality standards would be restricted to within a few hundred feet downgradient of the mine" (p. 6-47). The identified constituents of greatest concern are sulfate, iron, and total dissolved solids, all of which pose no significant health problems, although sulfate may act as a laxative in some people. Monitoring wells are planned by the applicant. However, since there are numerous wells in the area, consideration should also be given to selective sampling of existing wells, and a public awareness program which would alert the local population to any changes in groundwater quality or drawdown which may affect them.

We have some concerns regarding the maintenance of surface water quality and air quality. However, the Draft EIS has addressed these potential impacts and mitigation plans. Proper operation and maintenance of the proposed project is essential in minimizing potential impacts to the environment. Adequate operator staffing, training, and laboratory and process controls are necessary for appropriate quality assurance. Standard conditions required for receiving and maintaining NPDES Permits should ensure appropriate operation and maintenance of pollution controls.

Responses to Comments by the
Department of Health & Human Services, P.H.S.

1. The compensation measures applicable to eliminated wells are cash settlement, re-drilling the well, or connection to a public water supply. Which measure is selected depends upon the lease agreement terms where well loss occurs on leased lands. Replacement wells could be completed in the deeper Wilcox sands. Compensation by connection to a water supply system could be to one of the existing systems (depending upon the property location) or to another system, if one existed at the time of compensation. Information provided by the existing systems (New Prospect Water Supply Cooperative and Crims Chapel Water Supply Company) indicate that sufficient capacity exists or is planned to accommodate additions. Surface mining regulations (with RRC as the delegated authority) require compensation for affected wells even if they are located on land the applicant does not own or lease. Compensation measures would be the same as for wells covered by lease agreements. The burden of proof for claims is on the well owner.
 2. RRC regulations (Section .350) require monitoring by the permittee to determine the effects of mining on ground-water quantity and quality. Section .350 states (in part) that "Ground water levels, infiltration rates, subsurface flow and storage characteristics, and the quality of ground water shall be monitored in a manner approved by the Commission, . . ." and "Monitoring shall include measurements from a sufficient number of wells and mineralogical and chemical analyses of aquifer, overburden, and spoil that are adequate to reflect changes in ground water quantity and quality . . ." The monitoring program must be developed on a case-by-case basis to take into consideration any site-specific geologic or hydrological characteristics. TUGCO states that, at the existing "A", "B", and "C" mining areas, most monitoring wells have been installed by the company. EPA's review of water well monitoring wells have "A", "B", and "C", provided by TUGCO, notes that the location of wells is too great a distance from mining that has occurred to date to indicate water quality effects. TUGCO indicated that piezometers had not been installed in wells on mined areas and no data on water levels or water quality analyses exist.
- No structured, on-going "public awareness program" is conducted by EPA, RRC or other agency. To date, the public has been made aware of general and some specific project details during the NEPA process. This includes the Public Scoping Meeting, DEIS and the Public Hearing on the DEIS and will continue with the FEIS and Record of Decision. During the RRC permitting process, TUGCO must publish notice of its application in local newspapers and file a copy of the application for public review. Within 45 days of the last publication of the Notice of Application, the applicant or a member of the public may request a Public Hearing. During this time, the RRC may, on its own motion, call a hearing. The RRC must publish notice of any Public Hearing in local newspapers, accept input from the public, and publish a summary of its decision in a newspaper or similar periodical of general circulation in the area of proposed operation. The RRC also must provide a complete copy of its decision to each person or agency who filed a written objection or comment to its application. During mining operations the public may become aware of project details. Upon request to the EPA and RRC, the enforcement files, monitoring reports and other non-confidential data are available to the public. In addition, Section .221 of the RRC regulations require that the permittee must notify any person whose health and safety is in imminent danger due to a non-compliance on the part of the permittee. According to the RRC (1983) to date no instance where a

Page 2 - Dick Whittington, P.E.

Thank you for the opportunity to review this draft document. We would appreciate receiving a copy of the Final EIS when it becomes available. If you should have questions regarding our comments, please contact Mr. Ken Holt at (404) 452-4163 or FTS 236-4163.

Sincerely yours,



Frank S. Lisella, Ph.D.
Chief, Environmental Affairs Group
Environmental Health Service Division
Center for Environmental Health

Department of Health & Human Services, P.H.S.
Page 2

permittee has needed to notify the public of imminent danger has occurred in Texas. Instances have occurred in mountainous regions of eastern Kentucky and West Virginia in relation to unsafe dams constructed from mine refuse.

3. EPA concurs regarding concerns for maintenance of surface water quality. Adequate enforcement procedures apparently are necessary to approach appropriate operation and maintenance of pollution controls. Violations of surface water discharge limitations have occurred at mining areas "A", "B" and "C".



A GOVERNMENTAL AGENCY
OF THE

State of Texas

RECEIVED
SABINE RIVER AUTHORITY
of Texas
27 1983
6 ES

Response to Comments by the
Sabine River Authority

1. Based on further evaluation of information available to us, EPA has placed a provision on the draft NPDES permit (see Appendix A) for long term monitoring at three stations to establish ambient water quality baseline and to measure effects of the mine project.

P. O. BOX 570
CHANCE, TEXAS
75630

April 23, 1983

Mr. Clinton B. Spotts
Regional EIS Coordinator
Environmental Protection Agency
Region VI
1201 Elm Street
Dallas, TX 75270

Dear Mr. Spotts:

We are writing in reference to the Draft Environmental Impact Statement (EIS) on the Martin Lake "D" Area Lignite Surface Mine Project proposed near Henderson, in Bask County, Texas by the Texas Utilities Generating Company. The following comments are offered for your consideration.

As we stated in our comments on the Preliminary Draft EIS, the Authority owns and operates Toledo Bend Reservoir jointly with the Sabine River Authority, State of Louisiana. As a result, we are primarily concerned with any potential impacts on water quality in principal tributaries, the main-stem Sabine River and the downstream headwaters of Toledo Bend Reservoir.

The draft EIS discusses a number of potential impacts that lignite mining could have on surface receiving waters, and concludes that the effluent limitations and the constituents to be monitored provide the necessary protection for the area receiving streams. However, it appears to us that there is a need for monitoring of Mill Creek, Tiawicki Creek, and Lake Cherokee in order to document the effectiveness of the discharge monitoring program presented in the draft EIS.

There are two major areas of general concern which we would like to address. First, a significant area of the Sabine Basin upstream from Toledo Bend Reservoir, a major drinking water supply reservoir, is affected by existing and proposed lignite mining operations and their associated steam electric stations. We believe increased water quality monitoring is needed for the principal tributaries affected by mining activities, the main-stem Sabine River and the headwaters of Toledo Bend

2. Reservoir in order to assure that this drinking water supply reservoir is not affected by any potential cumulative impact from all the mining projects. Second, appropriate studies should be conducted and any necessary action taken in order to assure that mining and reclamation activities do not reduce the firm yield of downstream water supply reservoirs.

We would like to thank you for this opportunity to present our comments on the draft EIS.

Sincerely,


Jack W. Tatum
Development Coordinator

2. We concur. Any further studies should be coordinated with Texas Department of Water Resources and Sabine River Authority. See Part III, B for revisions to impacts on water resources.

RECEIVED

APR 25 1983

6 ES

4-18-83
706 F. Main St
Hudson, Texas
214-657-3916

Mr. Clinton B. Spotts.

After reading the E.I.S. for
the Montic Creek Lake Area D
Mining Permit, I would like to
make the following comments.

Page 5-13 Sec. 5.1 and 6.4
You state that to plant trees
would require a high degree of
management. Any further con-
tull you that timber land requires
the least amount of time and
management as compared to any
other land use. They lose majority
of timber in acid taxes has
been grown by accident. Also the
percentage of land that you state
will be reforested (10-50%) is
very broad and vague.

Response to Comments by
Mr. Bill Snow

1. The EIS will be revised to state that regardless of the final vegetative cover, a high degree of management would be required for the initial period. For revegetation with woody species, a cover crop must be established to prevent erosion early in the process. Once established, forested land requires little management.
2. The use of a percentage range (10 to 50 percent) for reforestation is vague. This represents the TUGCO commitment. It is unknown whether this will be acceptable to the RRC. For any given acre of land the vegetative cover to be established may be based upon factors such as: suitability of the land (e.g., steep slopes near water courses may be most suitable to woody species); adjacent vegetative cover (e.g., a small area of grassland partially surrounded by woody species may be most appropriate for mitigation of wildlife habitat loss); desires of the land owner (e.g., lease conditions may specify the vegetative cover); or regulatory restrictions of the RRC (e.g., reclamation to a pasture in a previously wooded area, which was not used for grazing, may represent a land use change). TUGCO's practices in reforestation of the "A", "B" and "C" areas have increased each year (during the past three years) and reforestation areas presently amount to approximately 13 percent of the total area disturbed to date.

Mr. Bill Snow
Page 2

3. EPA concurs.

4. The 10 to 50 percent reforestation acreage figure represents the TUGCO commitment. EPA concurs that the benefits you stated from timberland do occur. See revisions to the text in Part III.

3.
Page 6-83 table 6-16
Osim, your figs you have
41% of the land in the
total project as forested, and
37% of the mining blocks
as forested. believe there are
very significant amounts of timber-
land and their reestablishment
needs, to be more strongly considered.

4.
Page 6-96
You state that pasture and
cropland can be pastured for
2-3 years, while timber takes
15-16 years (shown 1982). Also
that upland pine/hardwood would
be reclaimed to 10-50% of the
mined acreage. Can this be
clarified for that? I believe
we need some definite acreage
figures that will be replanted.
Young seedlings timber land past
only pseudotsuga timber for long future,
but rebuild soil, Pseudotsuga will be
stabilization, cover Reg will be
and many other benefits.

Mr. Bill Snow
Page 3

5. The percentage range for revegetation to pasture and woody species represents the commitment made at this time by TUGCO.
6. The emissions from the crusher were calculated from information in the source document (EPA, 1977a) listed at the bottom of Table 6-20. This document states that primary crushers release emissions at a rate of 0.02 lb per ton of western coal crushed. Lignite, since it contains more moisture than western coal, would release emissions at a lower rate but actual emission rates for lignite are not available. TUGCO states that they will mine (and crush) 3.5 million tons of lignite per year (pp. 5-19, DEIS). The crusher would release 35 tons of emissions per year under uncontrolled conditions (0.02 lb/ton x 3.5 million tons/year x 1/2000 lb/ton). The crusher emissions will be controlled by water sprays (Table 6-20, DEIS) which are rated as 50 percent efficient (i.e., reduce the emissions to one-half the uncontrolled amount). Thus, the actual yearly emissions are calculated as 18 tons/year (35 tons/year x 0.5 = 17.5 tons/year). The TACB, in a letter dated March 8, 1983 (see Appendix B), has exempted the facility from the TACB permit procedures "because it will not make a significant contribution of air contaminants to the atmosphere...". According to the level of significance used by TACB, this means that the fugitive emissions will add less than 1 microgram (1/1,000,000 grams) per cubic meter of air for the annual average and less than 5 micrograms per cubic meter of air for the 24 hour average. No dust problems from crusher emissions are expected beyond the permit boundary nor at the nearest residences. See revisions to the text in Part III.
7. The analyses for construction and operational noise levels are conducted on "worst-case" conditions (pp. 6-129 and 6-131) to assess the impacts. It is unknown whether the worst-case conditions would occur; the noise experienced may be lower than projected. The construction activities and many operational activities are short-term. The only significant operational impact would be in the community of Oak Hill when mining occurred at the edge of the nearest pit. This also would be a short-term adverse impact. Operations near the edge of the nearest pit would occur for 24 hr/day for about a one week period four to five times per year over a one and one half (1 1/2) year period. That is, the worst-case conditions might occur about seven to eight times for one week periods. Possible mitigation measures include berms to act as noise barriers. TUGCO has not committed to specific mitigation measures.

Page 6-100
Again you state that from 50% - 90% of the mined area will be reforested. Those figures are very broad. Lignite is a lot of different area but we can state 50% and 90%. You also state that from 10% - 50% will be planted to timber again. I am not sure one top broad and much do be stated more rigidly.

Page 6-126
You state that Area "D" train loading facility, including the crusher will not have over 18 tons of men future emissions per year. How was this determined? And how will people living close to the crusher be guaranteed that they will not be covered with dust.

Page 6-129
You talk of noise levels around the mining and commingling (berms). Why should any one that has to live in the area be subjected to levels of noise? I believe you need to justify this further.

Page 6-139

You state in Bush Co. Sherry
are about 29,000 acres of timber land,
with industry owning about 64% of
timber 4.2% and 88.2% other
ownership. (Eads 1976) The
probably a very close estimate.
You then say in state that
in 1979 there were five sawmills
in Bush Co. Production 50,469
board feet of lumber and 2083
cross ties. These figures are meaningful
they have no cut time associated
with them. There is one
mill in Bush Co. Capable of
producing 50,000,000 board feet
of lumber/year, plus other
smaller mills capable of
producing 140,000 - 60,000 cross ties/year
plus the lumber associated with
their production. Also much timber
is processed here in Bush Co.
and hauled to other forest
products companies out side Bush Co.
estimating the percentage of
the forest products output in
Bush Co. and that then
prints need to be addressed
for later.

Mr. Bill Snow
Page 4

8. The figure for 1979 lumber production on pp. 6-139 is incorrect. The proper figure for pine is 50,469 thousand board feet (i.e., 50,469,000 board ft). The figure for ties is correct but it was not made clear that there were only 2,053 pine ties produced. Total cross-tie production was 71,291 of which 69,238 were hardwood ties. The unit of time associated is one year (i.e., 1979, the most recent year for which data were available during production of the DEIS). The source for the data was the Texas Forest Service (1980).

Mr. Bill Snow
Page 5

9. The information on agricultural uses and commercial forest acreage was taken from reports prepared by the U.S. Department of Commerce (1981b), the East Texas Council of Governments (1977) and Earles (1976).

Page 6-141
You state that bond of
residential tracts and in Bush
County land use for agriculture
and timber cutting is declining
and increasing of crop land and
timber land will be used for
grazing. How can you justify
this statement? By believing
you intend to do further research
on the economics of timber land
management VS. Cattle pasture
management.

Yours truly
Bill Snow

SIERRA CLUB



LONE STAR CHAPTER

4014 Woodcreek
Houston, TX 77038
Ap. 21, 1983

Clinton Spotts, Reg. EIS Coordinator
U.S. E.P.A.
1201 Elm St.
Dallas, TX 75270

Re: Draft Environmental Impact Statement
Martin Lake "D" Area Lignite Surface Mine Project

We are concerned about proposed reclamation method-alternative number one. This method will admittedly adversely effect soil ph, increase acid runoff to contaminate surface and ground water and adversely effect the "primary objective of revegetation operations to establish an enduring self propagating and ecologically sound vegetative cover..." It seems that the Texas R.R.C. definition of prime farmland undervalues the long term land productivity value by using farming history as a criteria. The protection of the long term land productivity resource must be the chief concern of any land reclamation project.

We propose that all 26,231 a. of U.S. Soil and Conservation Service classified prime farmlands be protected by Alternative four methods of mining and reclamation. We recommend that topsoil be placed over oxidized spoil in these U.S.C.S. prime farmlands. Special care should be taken to avoid contamination of ground water. The applicant should monitor groundwater at several sites around the area to assure water quality.

Thank you for this opportunity to respond.

Yours truly,

George Smith
George Smith
Conservation Chair

RECEIVED
APR 25 1983
6 ES

"When we try to pick out anything by itself, we find it hitched to everything else in the universe." John Muir

Response to Comments by the
Sierra Club, Lone Star Chapter

1. Comment noted.
2. Comment noted.
3. The total acreage of Soil Conservation Service (SCS) prime farmland soils within the project boundary is 8,365 ac with 6,152 ac occurring within the mining blocks. Of the prime farmland soil acreage within mining blocks, some 920 ac is loka fine sandy loam, which is associated with flood plains of streams. Most of the loka fine sandy loam will not be disturbed since mining will not occur in the flood plain of streams, except for the Dry Creek diversion, which will disturb about 30 ac of loka fine sandy loam. Construction of the railroad and transmission line could affect 76 ac of prime farmland soils outside the mining blocks. It is estimated that mining activities (including haul roads, facilities, railroad and transmission line) could disturb about 5,340 ac (6,152 ac - 920 ac + 30 ac + 76 ac) of prime farmland soils.
4. Comment noted.



RUSK COUNTY
Chamber of Commerce

214-657-5528 * 201 NORTH MAIN
HENDERSON, TEXAS 75652

April 12, 1983

Mr. Clinton Spotts
U. S. Environmental Protection Agency
1201 Elm Street
Dallas, Texas 75207

Dear Mr. Spotts:

In response to your request for comments on the Environmental Impact Statement for the Martin Lake B Area Lignite Surface Mine, the Board of Directors would like to go on record in support of the project.

We are aware that there will be short and long term beneficial impacts to the local economy resulting from wages, land purchases, royalties and capital expenditures from the project.

Our people recognize that any large mining project will have some environmental impacts. At the same time your document has done a good job of identifying those impacts and the procedures that will be used to insure that there will be no major environmental effects. Texas Utilities Generating Company has established a good reclamation program at its mines in Panola County, and we expect that they will conduct a similarly beneficial environmental protection program at the new mine in Rusk County.

Sincerely,

B. G. Davis
B. G. Davis
President

BGD/db

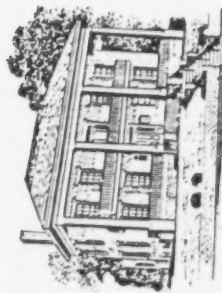
Response to Comment by
Rusk County Chamber of Commerce

1. The comments are noted. We encourage you to be interested in the natural environment as the project may proceed through additional permitting, construction and operation.

RF
APR 21 1983
6 ES

Rusk County Heritage Association

501 South Main
HENDERSON, TEXAS
75652



HOWARD DICKINSON HOUSE - 1855
REMOVED 1917

Mr. Clinton B. Spotts, Regional EIS Coordinator
U.S. Environmental Protection Agency
1201 Elm Street
Dallas, Texas, 75270

Dear Mr. Spotts:

RE: ENVIRONMENTAL IMPACT STATEMENT (Draft)
MARTIN LAKE D AREA
LIGNITE SURFACE MINE
HENDERSON, RUSK COUNTY, TEXAS

The abstract on page 2, Mr. Myron O. Knudsen, for Mr. Dick Whittington, P.E. Regional Administrator, is enough to scare the daylights out of us, when it comes to environmental change generally and archaeological and historic sites in particular. And Table 1-1 doesn't help much, for instance page 1-7 ARCHAEOLOGICAL AND HISTORIC RESOURCES: "Adverse effect has been determined on Walling Cabin, but minimized by re-location to Henderson" Minimized is right and we are glad to get the cabin, but how come we weren't given a chance to transfer some of the bulbs and ancient shrubs and plantings around that cabin? The place was awash with blooms - and the ancient Bois d'Arc tree near the road - not in the way of anything - could have been left there. It may well have been the largest Bois d'Arc tree in Texas, but it went down within hours - bulldozed and burned. What was the hurry? Nothing has been done there since.

Now as to 41RK86 - THE TOWN OF MILLVILLE. Se surely want that site disturbed as little as possible, if at all. Before and for some time after the 1850's Millville was a flourishing town, and an important one in Rusk County. There were at least five Mills there - Tannery, Grist Mills, Cotton Gin, etc. There of my own knowledge that at least one of the Mills was owned by the Calloway Family, and one of the Grist Mills was owned by Col. Jesse Walling. Dr. O. L. Burt, besides his medical practice, owned a Drug Store there in which the U.S. Post Office was located. There were numerous other businesses, a Hotel, Stage Coach Way Station, Churches and Schools.

We have numerous old Ledgers and accounts of life in Millville, and with the exception of Gen. Sam Houston, it would be hard to find two more colorful characters that old Col. Jesse and Dr. Burt.

Response to Comments by Rusk County Heritage Association

1. EPA is also concerned regarding the disturbance and loss of the Walling Cabin site shortly after archeological work was carried out. Oral assurance had been given to EPA that work on the railroad corridor would begin at the power plant site and that it would be months before the cabin site would be reached; adequate time was expected to receive the Archaeologists reports and determine survey completeness and site eligibility. At that time it was believed unnecessary to provide direction to the applicant.

Rusk County Heritage Association
Page 2

2. We are told that the Millville site will not be mined for ten years yet. So ???? We DO NOT want that site mined at all. It is important to Rusk County.

3. ABOUT 41RK87 - THE MONTGOMERY HOUSE. This house was a beautifully built and decorated house, the scene of much entertaining in its day. Whoever is responsible for the bulldozing of the site did a dis-service to This County. The House itself could have been saved years ago if we had had the money or/and the cooperation of the family. We had neither.

41RK128 THE JOHN VINSON SR., house - still standing but in a sad state of delapidation. Though an affluent man, his house did not reflect it.

THE RICHARD B. TUTT PLANTATION - so far as we know, Richard B. Tutt and his family never lived on the plantation, but built and operated THE WHITE TAVERN in Henderson, Texas.

THE RICHARD MAGEE PLANTATION - Part of this lies within the prospective mining zone. There was a large plantation house, cotton gin, plus other usual plantation structures here. I have personally seen (many years ago) some of the foundation for the main house, a rather large excavation - perhaps a cellar, other evidences of structures. Bulbs cover the slope where the house was in the springtime, and many brambles from an evidently extensive planting of roses. The sage of Richard Magee is an interesting one: from Plantation owner, early Commissioner of Rusk County, to part owner and Captain of a Steamboat called THE GENERAL RUSK, built by Rusk County men to ply the waters of the Sabine River.

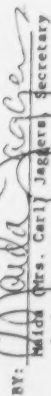
All of these sites should be marked, and some of them qualify for the National Register of Historic places.

There are many archaeological sites: 41RK82 Bottom land west side of Millville; 41RK83 - north of the confluence of Mill and Dogwood Creeks; 41RK106 East Bank of Mill Creek at FM 782 and 42-RK109, West of 106 above knoll overlooking Mill Creek, to name a few. These should all be checked out thoroughly before being irretrievably lost.

5. We are not ANTI-Progress; we ARE Pro-Conservationists - from Historical sites to Flora and Fauna, to the fullest extent possible.

Very truly yours,

RUSK COUNTY HERITAGE ASSOCIATION
RUSK COUNTY HISTORICAL COMMISSION

BY: 
Maida Jagers, Secretary
of the Heritage Group
Member of the Commission

2. Regarding 41RK86 - The Town of Millville. The information is appreciated and points further to significance of the area.

EPA, instead of requiring identification and determination of eligibility and appropriate mitigation on all sites over the entire project area before any permit action, entered into an agreement with the Texas State Historic Preservation Officer and the Advisory Council on Historic Preservation (which has responsibility to see that agencies carry out consultation on cultural resources according to the National Historic Preservation Act) so this could be done over the 30-year period of mining, one permit area at a time.

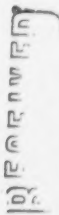
41RK87. While the structure is lost and much of the area has been disturbed, (see Part III) by gravel mining and other activities, the applicant has been informed that the area is considered to have high probability for discovery of resources during mining activities.

41RK128. Effects of mining and mitigation to John Vinson, Sr., house and site would be addressed by the applicant about the year 2005. However, as noted in our response to the Rusk County Historic Commission, other interested parties such as that Commission or Rusk County Heritage Association could pursue a determination of eligibility and/or nomination to the National Register of Historic Places, so that the importance could become known earlier. This is also true for the other known sites.

5. EPA encourages you to be familiar with cultural resources protection requirements of agencies that may have permit actions in this county so that you may continue to assist, in all permit actions, with public input and to help ensure agency and applicant compliance. We have forwarded a copy of the federal regulations EPA should comply with regarding cultural resources. Under the National Environmental Policy Act, EPA should ensure, before permitting, that a project meets all state and local laws; to do so requires public input.

In addition, you are encouraged to follow actions by federal and state agencies which propose changes to their requirements from time to time. (Federal regulations and changes are printed in the Federal Register). Industry, as a regular work practice, provides comments to agencies on regulations. It may be beneficial to the environment for you to review and provide comments that promote your interests as well.

The Association comments are sincerely appreciated. Please note revisions to information of the Draft EIS in Part III of this Final EIS.



APR 19 1983

6 ES

MAX N. TANKER, JR.
VICE PRESIDENT

Response to Comment by
Dallas Power & Light Company

April 19, 1983

Mr. Clinton B. Spotts (GESF)
U.S. Environmental Protection Agency
First International Building
1201 Elm Street
Dallas, TX 75270

1. Comments are noted. No response is necessary by EPA.

Martin Lake "D" Area Lignite Surface Mine
Draft Environmental Impact Statement (EIS)

Dear Mr. Spotts:

Dallas Power & Light Company owns and operates production, transmission, and distribution facilities to serve a population of approximately one million within Dallas County, Texas. As part of the Texas Utilities Company System, DP&L is a joint owner of the Martin Lake Steam Electric Station with the Company's share of electrical output from the station distributed to customers within the Company's service area. The Company has an interest in the draft EIS and the proposed operation of the Martin Lake "D" Area mine because of the increasing importance of lignite as a fuel resource.

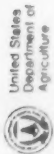
The Company believes that the draft EIS adequately addresses all environmental issues associated with the project and urges the Agency to accept the document as fulfilling the needs for which it was developed. The cost of fuel for the Company's gas fueled generation continues to escalate. Lignite fuel has proven to be a valuable stabilizing influence in our overall fuel cost. With the continued and expanded use of lignite fuel, our Company is meeting the energy needs of our customers at the most reasonable price.

We appreciate the opportunity to provide comments on and to support the adoption of this document.

Yours very truly,

Max H. Tanker, Jr.

DALLAS POWER & LIGHT COMPANY 1505 COMMERCE STREET DALLAS, TEXAS 75201 (214) 698-7000



United States
Department of
Agriculture

Soil
Conservation
Service

P. O. Box 648
Temple, TX
76503

April 14, 1983

Mr. Dick Whittington, P.E.
Regional Administrator
U.S. Environmental Protection Agency
1201 Elm Street
Dallas, TX 75270

Dear Mr. Whittington:

We have reviewed the Draft Environmental Impact Statement (EIS) on the Martin Lake "D" Area Lignite Surface Mine Project proposed near Henderson, Rusk County, Texas and have no comments for improvement. The comments we made in January 1983 have been included in this draft.

Thank you for the opportunity to review this EIS.

Sincerely,


Billy A. Griffin
State Conservationist

cc: Audrey Baker, AC, SCS, Maragdoches

Response to Comment by the
U.S. Department of Agriculture; Soil Conservation Service

1. Your letter is appreciated and your comments noted.



City of Henderson

400 West Main
Henderson, Texas 75652

April 14, 1983

RECEIVED

APR 18 1983

6 ES

Response to Comment by
City of Henderson, City Manager

1. The comment letter is appreciated and comments are noted. We encourage you to continue to be interested in the natural environment as the project proceeds through additional permitting, construction and operation.

Mr. Clinton Spotts
U. S. Environmental Protection Agency
1201 Elm St.
Dallas, Texas 75207

Dear Mr. Spotts:

We have reviewed the draft Environmental Impact Statement for the TUGO proposed new Martin Lake "P" Area Lignite Mine. We found it very interesting and informative as to the environmental conditions that will result to the City of Henderson because of this mining operation. It appears that the planning and study that has been made will result in a successful operation for the area.

In reviewing the environmental concerns and effects upon the environment of the City of Henderson and its citizens, we conclude that the project is in the best interests of all concerned. It appears that the environmental impacts will not adversely affect the City of Henderson in its operations and will be a contributing factor for the orderly growth and development of the City of Henderson.

In conclusion, we would recommend to EPA that a National Pollution Discharge Elimination System Permit be issued to Texas Utilities Generating Co. for the project.

Sincerely yours,

Jack Dickerson
Jack Dickerson
City Manager

JD:cka



DEPARTMENT OF HOUSING AND URRAN DEVELOPMENT
FORT WORTH REGIONAL OFFICE
221 WEST LANCASTER AVENUE
P.O. BOX 2909
FORT WORTH, TEXAS 76113

REGION VI

Response to Comment by the
U.S. Department of Housing and Urban Development

IN REPLY REFER TO

RECEIVED

APR 15 1983

6 ES

April 14, 1983

Mr. Clinton B. Spotts
Regional EIS Coordinator
Region 6
U.S. Environmental Protection Agency
1201 Elm Street
Dallas, TX 75270

Dear Mr. Spotts:

The Draft Environmental Impact Statement for the Martin Lake D Area Lignite Surface Mine near Henderson in Rusk County, Texas, has been reviewed in the Department of Housing and Urban Development's Dallas Area Office and Fort Worth Regional Office, and it has been determined that the subject document adequately addresses this Department's special areas of environmental concern.

Sincerely,

Victor J. Hancock
Victor J. Hancock
Environmental Clearance Officer

1. The comment letter is appreciated and comments are noted.

THIS FORM CAN BE USED TO SUBMIT COMMENTS RELATED TO THE ENVIRONMENTAL
IMPACT STATEMENT ON THE MARTIN LAKE "D" AREA LIGNITE SURFACE MINE IN
HENDERSON, RUSK COUNTY, TEXAS.

Dear Mr. Spatta.

I'm not sure if you can help
me or not. I'm interested in selling Fold
and to Texas Utilities. Our property
consist of 9.44 acres. 9 miles north east of
Henderson in Oak Hill Comm. We have
in the "D" area of impact fold.

We are wondering if the mining
will get to us and the fold.

I thank you. S. Ogden 336-4397

I hope as Betty Holcomb
let of 67,356 to Henderson 24 Fold

Response to Comments by
Floyd and Betty Holcomb

1. The area near the Oak Hill Community is planned to be mined after the year 2005
(see Fig. 1-2, DEIS). Present plans do not call for mining the land on which the
community itself is located. More details based upon the exact location of your
property may be obtained by contacting the TUGCO land office in Henderson.

Name Floyd & Betty Holcomb

Address 674 N. 25th St.

Henderson, TX 75122

(Secure folded sheet with tape or glue)

RECEIVED

APR 15 1983

GES

Reproduced from
best available copy.



Wildlife Management Institute

709 Wire Building, 1000 Vermont Ave., N.W., Washington, D.C. 20005 • 202-342-1774

DANIEL A. POOLE
President
L. R. JAHN
Vice President
L. L. WILLIAMSON
Secretary
JACK S. PARLER
Board Chairman

PLEASE REPLY TO
Murray T. Walton
Southeastern Representative
Suite 16, Box 30C
Dunwoody, Ga. 30088
512-825-3473

April 7, 1983

Mr. Dick Whittington, Regional Administrator
U.S. Environmental Protection Agency
1201 Elm Street
Dallas, Texas 75270

Dear Mr. Whittington:

The Wildlife Management Institute has reviewed the Draft Environmental Impact Statement for Martin Lake D Area Lignite Surface Mine, Henderson, Rank County, Texas. The proposed action will disrupt approximately 15,000 acres including approximately 300 acres of wetlands and aquatic habitats and over 1,000 acres of bottomland hardwood forest.

The Institute favors topsoil replacement (alternative 2) for overburden handling, especially for all prime farmlands. We also favor the proposed revegetation alternative of pasture and woodland, but we recommend that additional native species be used. The Institute does not find, however, that the proposed actions are sufficient to mitigate wildlife losses. To further mitigate such losses, we recommend that TUGCO make all suitable portions of its 5,460 acres of fee lands in the project area available to the Texas Parks and Wildlife Department for Wildlife Management Area purposes upon the completion of mining and reclamation.

Thank you for the opportunity to comment on this document.

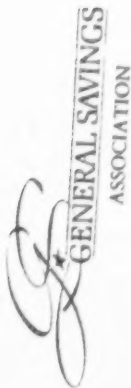
Sincerely,
Murray T. Walton
Murray T. Walton
Southeastern Representative

DEDICATED TO WILDLIFE SINCE 1911

Response to Comments by the Wildlife Management Institute

1. Within the mine blocks, 1,092 ac of bottomland hardwood forests (1,039 ac) and hydric communities (53 ac) occur. These 1,092 ac include wetlands identified by the COE. Activities to occur are: construction of ancillary facilities; the Dry Creek diversion; construction of haul roads; pipeline/transmission line ROW relocations; and mining. These activities would affect about 84 ac of wetlands as determined by the COE within the mine blocks. Construction of the railroad and transmission line between the power plant and mine (outside the mine blocks) would affect about 24 ac of bottomland hardwood forest and hydric communities (some of which might be classified as wetlands) (see Table III-I). Mining activities would affect an undetermined acreage of bottomland hardwood forest and hydric communities which are not wetlands. A 100-ft. buffer between mining activities and a stream is stated by mining regulations, although approval to mine more closely to streams can be obtained. In the case of the Dry Creek diversion proposed by TUGCO, it is presently unknown how the buffer requirement will be applied.
2. Comment noted.
3. Comment noted.
4. EPA has informed TUGCO of the mechanism to donate or lease land to the Texas Parks and Wildlife Department (TPWD) for wildlife management purposes. Decisions by TPWD to accept or reject such offers are made on a case-by-case basis. Some considerations in making such decisions are suitability of the land for management purposes, need for the additional acreage and availability (long- and short-term) of funding needed to develop and/or maintain the land. The disposition to make any land available to TPWD would remain with TUGCO.

Your letter is sincerely appreciated. Thank you for the information on wildlife habitat impact mitigation.



GENERAL SAVINGS
ASSOCIATION

RECEIVED
APR 17 10 30 AM '83

April 11, 1983

Mr. Dick Whittington, P.E.
Regional Administrator
United States Environmental Protection Agency
Region VI
1201 Elm Street
Dallas, Texas 75270

Dear Mr. Whittington:

I have recently reviewed your Environmental Impact Statement on the Martin Lake "D" Area Lignite Surface Mine Project proposed near Henderson, Rusk County, Texas.

At this point, please allow the following comments:

- A. Previous mining operations in the area have had positive impacts on our local economy by providing jobs and a source of new cash to land owners.
- B. Inspection of mining operations and reclaimed land does not, in my opinion, have an overall negative impact.
- C. Area "D" should be similar in final reclamation as other areas in Panola/Rusk County due to the consistency of operation for which Texas Utilities Generating Company is noted.
- D. The new citizens who have joined the community in association with the project have been of highest quality.

We encourage your agency to issue a favorable decision concerning the necessary permits and/or permission to proceed as proposed in the report. The short term as well as long-term impact of this project certainly has more positive end results than negative end results in our opinion.

Sincerely,

Mark R. Hale
Mark R. Hale
President

MRR:lms

RECEIVED

APR 13 1983

653

214-851-7000
P.O. BOX 750 • 8 MAIN ST HWY 10
HENDERSON, TEXAS 75626

Response to Comment by
General Savings Association

1. The comments are noted. We encourage you to continue with an interest in the natural environment as specific planning and additional permitting may proceed.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

SOUTHWEST REGION
P. O. BOX 1089
FORT WORTH, TEXAS 76101



DATE: April 8, 1983

IN REPLY
REFER TO: ASW-43A

SUBJECT: INFORMATION: Environmental Impact Statement - Martin Lake D Area
Lignite Surface Mine, Henderson, Rusk County, Texas

FROM: Manager, Budget and Planning Branch, ASW-43

TO: Mr. Dick Whittington, P. E.
Regional Administrator
U. S. Environmental Protection Agency
Region VI
1201 Elm Street
Dallas, Texas 75270

Dear Sir:

We have reviewed the subject draft environmental impact statement and find no interference with existing or planned FAA facilities/airports.

Thank you for the opportunity to comment.

E. B. McCoy
E. B. McCoy

cc:
OST P-37, N. Cooper
FtW OST Rep, J. Abby

11-73

Response to Comment by the
U.S. Department of Transportation, Federal Aviation Administration

1. The comment letter is appreciated and comment noted.

APR 11 1983

6 E3

APR 11 1983
6 ES

Response to Comment by
Preston and Ludie Gibson

1. Comments are noted. We encourage you to continue an interest in the natural environment in the mine area as the project may proceed through additional permitting, construction and operation.

April 8, 1983

Mr. Clinton Spotts
U.S. Environmental Protection Agency
1201 Elm Street
Dallas, TX 75207

Dear Mr. Spotts:

This is in response to your request for comments on the Martin Lake "D" Area Lignite Mine proposed by Texas Utilities Generating Company. As landowners in "D" Area, we have a strong interest in the economy and well being of Rusk County. We believe this project will be good for the people of Henderson and surrounding areas.

We have reviewed the Environmental Impact Statement. We believe the project will be good for the overall economy of the area. It will be large enough to provide increased employment opportunities and significant tax revenue to Rusk County and Henderson ISD.

It seems that all the potential environmental impacts have been well identified in the document and procedures will be followed to minimize the environmental effects.

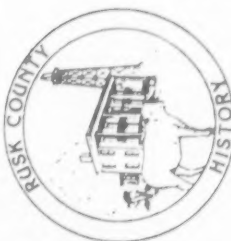
We are in favor of development of the project and request that a permit be issued.

Sincerely,

Preston Gibson
Preston Gibson

Ludie Gibson
Ludie Gibson

/da



RUSK COUNTY HISTORY BOOK

COMMITTEE

Miss Virginia Knapp
General Chairman
Mrs. Maude Jagers
Chairman
Tennel & Grand History Chairman
Mrs. Mary F. Baker
Field Representative Chairman
Mrs. Gene Lester
Publicity Chairman
Mrs. Susan Weaver
Artist
Miss Ruth Kisham
Editorial Chairman

RUSK COUNTY HISTORICAL COMMISSION MEMBERS

Miss Virginia Knapp
Chairman, Henderson
Mr. Cecil Williams
Tatum
Mrs. Maude Jagers
Henderson
Mrs. Margaret Brown
Henderson
Mrs. Gene Lester
Henderson
Mrs. Rita Byrd
Henderson
Mrs. Bernice Camp
Henderson
Mr. Homer Bryce
Henderson
Mr. Reuben Ellis
Henderson
Dr. Dorman Winfrey
Austin
Mrs. Dorothy Hunter
Henderson
Mr. James Porter
Judge of Rusk County
Mrs. Bettie Streeter
Overton
Mrs. Betty Jo Walker
Morroe
Miss Mary Craig
Henderson
Mrs. Phyllis
Henderson
Dr. J. W. Griffith
Henderson
Mrs. Mabel Blackwell
Henderson

RUSK COUNTY HISTORICAL COMMISSION

April 10, 1983

Mr. Clinton B. Spotts
Regional Administrator
U.S. Environmental Protection Agency
1201 Elm Street
Dallas, Tx. 75270

Dear Mr. Spotts:

As chairman of the Rusk County Historical Commission, I wish to make some comments on both the Environmental Impact Statement of the Martin Lake Area D Lignite Surface Mine, Henderson, Rusk County, Texas and to add to it some comments on the findings in the same area by Jack Jackson and Henry Moncure of the Texas Archeological Survey Commission at Austin.

In the last twenty years Rusk County has just begun to uncover its past history. Prior to the 1960's only six historical sites had been located by interested persons of the county. Since 1960 there have been a total of forty-eight historical markings and four more are in the process of being approved for markers.

While the coming of Texas Utilities Company and its surveys have helped speed the findings of this 140-year-old county, it has also jeopardized some of the preservation and investigations of the sites within its mining areas.

The T.J. Walling Log Cabin was a special find, and we are grateful for its recovery and the chance to preserve it. Progress is being made in the restoration of the cabin with the help of Texas Utilities and the Archeological team that discovered it. With all the Texas Utilities good intentions, the site of the Walling Cabin was cleared, bulldozed, and leveled the day after the archeologists finished their excavations. No chance was given to either the Rusk County Historical Commission or the archeologists to return to the site for more work. We of the Historical Commission wanted to retrieve the bulbs and other plantings to use around the cabin in its new location. On the Monday following the archeologists work, we of the Commission returned to the site only to find the immense Bois-d'arc tree, the flowers, and bulbs all flattened and in a pile---burning. No work was started on that part of the rail line until the first of the year.

Response to Comments by the Rusk County Historical Commission

1. Comments are noted.
2. The matter of the clearing and grading of the T. J. Walling Cabin site is also of concern to EPA. While the cabin structure had been determined eligible for the National Register of Historic Places, a determination of eligibility of the cabin site was pending on completion and review of the archeological investigations. A summary of findings of the site is now included in Part III.

We are also concerned about the bulldozing of site 41RK87-The Montgomery House. Although TUGCO officially denies any responsibility of this destruction, local observers put the blame on them. The site could have provided us with artifacts and knowledge to add to our county history. B.F. Montgomery was a very important settler in our early history and his many descendants would have profited from the investigation.

If this is what is to be expected of TUGCO, we of the Historical Commission are concerned about the other sites listed for possible investigation. I speak specifically of pre-historic sites 41RK82, 41RK83, 41RK106, and particularly 41RK109. The findings there may be far more significant than preliminary investigations show.

In addition to the pre-historic sites, the historic site of 41RK86-Millville Town site can and does play a great part in our history. Although the Millville site is located in an area that will not be mined for ten years, we are interested in its preservation both as a National Historic Site and possibly as a preservation open to the public for viewing.

Two plantations, the Richard Tutt and John Vinson, Sr., are either within the project area or bounded by the project area. These two are our concern, and we are wanting to make plans for the marking of these sites.

Both Henry Moncure and Jack Jackson of the Texas Archeological Survey Commission have been extremely helpful to the Rusk County Historical Commission. They have offered advice and help particularly in the recovery of the Walling Log Cabin.

Ms. Jeanne Peckham of the Environmental Protection Agency has spent much time and effort learning about our county and our historical work and plans. She has covered on foot, with me and other Commission members, many miles of Rusk County in order to prepare herself for her report to the EPA. She has sought our advice and our help in locating many sites within this mining area. Her report on the "Archaeological and Historical Resources" is fair, competent and shows her understanding of our county and its history.

We intend to report to EPA if these sites are not examined by competent investigators and if cooperation with the Rusk County Historical Commission is not sought. This is our duty and responsibility to the County Commissioners Court, Judge James Porter and the people of Rusk County.

We thank you for the opportunity to comment on the Impact Statement.

Yours truly,

Virginia Knight
Chairman
Rusk County Historical Commission

3. 41RK87 - The Montgomery House and site is also of concern to EPA. The applicant was informed at a meeting in Austin, November 30, 1982, that the area is considered to have high probability for discovery of cultural resources during any clearing and mining activities.
4. 41RK82 and 41RK83 are to be investigated further in the future by Texas Utilities under the Memorandum of Agreement (MOA) before any ground disturbance in the mine permit area. Regarding 41RK106, 109, 110, and 111 sites, the sites should not be disturbed by mining or relocation of the SWEPCO transmission line according to a map, recently submitted, of the transmission line route. See Fig. 1-2B.
5. Under stipulations of the MOA on cultural resources and permit provisions, TUGCO would be required to provide an intensive survey of the area before any ground disturbance in the permit area. 41RK86 has been recommended as eligible to the National Register of Historic Places by the archeologists in the reconnaissance report of 1980. Mitigative measures, including the possibility of avoidance, would be determined in accordance with stipulations of the MOA. However, prior to that time, interested parties such as the Rusk County Historical Commission can take measures, in conjunction with the Texas State Historic Preservation Officer at the Texas Historic Commission (a State agency) to obtain a determination of eligibility to the National Register of Historic Places. If eligible, the nomination to the National Register could be carried out; this effort would include notification and concurrence of the landowners.
6. A site number, 41RK128, has been assigned the Vinson plantation. While under the present MOA, the applicant TUGCO would not be required to address the areas for some time. The County Historic Commission or other interested party could proceed earlier as described above on the plantations noted, to obtain a final determination of eligibility. 41RK128 has been determined potentially eligible by the Texas SHPO and EPA.

Please note the comment letter of the Texas Historical Commission and revisions to the text of the EIS.

The comments are sincerely appreciated. We propose to the Rusk County Historical Commission that where there are other permit or grant actions in Rusk County, that you become involved very early in the process.

THIS FORM CAN BE USED TO SUBMIT COMMENTS RELATED TO THE ENVIRONMENTAL
IMPACT STATEMENT ON THE MARTIN LAKE "D" AREA LIGNITE SURFACE MINE IN
HENDERSON, RUSK COUNTY, TEXAS.

Clinton B. Spotts,
1201 Elm St.
Dallas, TX 75270

Dear Mr. Spotts,

I appreciate very much being sent a
copy of the Environmental Impact Statement Draft. ^{Fold}
I have reviewed and have been unable to
find any reference to the Cemetery located on
my property located 1/2 mile SE of Crimi Chapel.
I don't know the date this Cemetery was first used
however one stone is dated 1879.
When I took the tour of the mine & etc I talked
to one of the officials of the company and he stated
that he didn't believe this Cemetery was one any
of their maps and that he would look into it.
I have had no more about this matter & date.
Should you please respond or have ^{Fold}
someone look into this to see if it has
been overlooked? Thanks,
Sincerely,
Clinton B. Spotts

Name Clinton B. Spotts
Address Rt. 1 Box 158
HENDERSON, TX 75652

(Secure folded sheet with tape or glue)

RECEIVED

APR 4 1983

6 ES

Response to Comment by
Prentiss L. Irwin

1. The Irwin Cemetery was not included on project maps. The cemetery (see Fig. I-2A) has been located and the archaeologists notified regarding inclusion of the cemetery as an historic site in the project reports on cultural resources. The applicant has been notified of the site, and if mining occurs in the area, the cemetery is to be avoided. The following site number has been assigned by the Texas Archeological Research Laboratory: 41RK130. (Site numbers are interpreted as follows: 41 = Texas, RK = Rusk County, 130 = specific site number in the county.) Additional information has been included in Part III of the final EIS.

HENDERSON INDEPENDENT SCHOOL DISTRICT

P.O. BOX 736 314 087-0811
HENDERSON, TEXAS 75652

Response to Comment by
Henderson Independent School District

March 25, 1983

Mr. Clinton Spotts
United States Environmental Protection Agency
1201 Elm Street
Dallas, Texas 75207

Dear Mr. Spotts:

After studying the draft copy of the Environmental Impact Statement issued in connection with Texas Utilities Generating Company's proposed D Area near Henderson, I wish to express my appreciation for the opportunity to comment.

I found the report to be very informative about the mine and environmental conditions of the area, as well as the expected economic impact. As superintendent of the Henderson Independent School District, within whose boundaries Area D lies, I see no reason why the project should pose any threat to property or people. On the contrary, TUGCO's plans for restoration of land productivity and beauty should be beneficial.

In addition, the project will have a positive economic impact on Henderson town and the school district. The long term project should blend in well with the expected population growth of the county, and the added tax revenues it will provide will also be beneficial. From personal observation of the mine areas in our neighboring county, and from personal knowledge of good citizenship qualities displayed by TUGCO staff people, I fail to understand why an element of fear should be expressed.

I support the issuance of a permit as soon as possible, and again, I thank you for allowing me to tell you how we feel about the question.

Very truly yours,

Harvey Cunningham
Harvey Cunningham, Superintendent

- I. Comments are noted. We encourage you to continue to follow the project through its mine permitting process, and construction and operation, as well as enforcement of requirements.

RECEIVED
MAR 28 1983
6 ES

Response to Comments by
Mr. Craig A. Tips

1. EPA has sent a copy of Figure 1-2 from the Draft EIS with the location of the property in question imposed on it.

CRAIG A. TIPS
2824 DANIEL COURT
DALLAS TEXAS 75204

Mar 11, 1983

Mr. Clinton Spots
Regional EIS Coordinator
U.S. Environmental Protection Agency
1201 Elm Street
Dallas Tx 75270
Att: Ms. Jeanne Pickham

Please help me identify where
the 35 acres of "Watten" land
in the James M.C. Olin Sur. A19
would be on your maps of the
EIS "Martin Lake D Area Lignite
Surface Mine Henderson, Rusk Co. Tx."
VT4

Craig A. Tips
Map Enclosed

C. THE FEIS AND RECORD OF DECISION

This FEIS was prepared after consideration of comments received on the DEIS, re-evaluation of some analyses and to afford the inclusion of additional information. The FEIS is divided into four (4) parts in the main body and has two (2) appendices attached. Approximately 100 copies were distributed: to agencies, organizations and individuals commenting on the DEIS; to those requesting copies and to three (3) depositories in the project area. The Notice of Availability of the FEIS appeared in the Federal Register and included an announcement of a 30-day public review period during which comments will be received from agencies, organizations and members of the public.

After the comment period ends, EPA will consider public impact and make a decision concerning the issuance of an NPDES permit. A Record of Decision will be issued to the mailing list.

Any permit would be issued simultaneously and would become effective 30 days after issuance.

PART III MODIFICATIONS AND CORRECTIONS TO THE DRAFT EIS

Modifications and corrections to the Draft Environmental Impact Statement (DEIS) as a result of re-evaluations by EPA or because of comments or information from agencies or individuals are presented in this section. Modifications to the SUMMARY (DEIS, Chapter 1.0) are not included in Part III since the entire summary has been updated and is included in Part I of this document. Revisions to Chapter 7.0 (COORDINATION) of the DEIS are included in Part II CONSULTATION AND COORDINATION.

Revisions are located by Section, page number and paragraph and sometimes line numbers. Reference to a paragraph means either a full or partial paragraph; number one on a page is the first full or partial paragraph and the last paragraph may be either full or partial. Line number is determined from the top of the paragraph. Major and minor revisions are addressed in order, by DEIS page number.

A. REVISIONS TO CHAPTER 5.0--DESCRIPTION AND EVALUATION OF ALTERNATIVES

Section 5.1 ALTERNATIVES AVAILABLE TO THE APPLICANT

Page 5-1, paragraph 3, an error in the range of BTU per lb of coal is corrected:

Western coal is a low-sulfur (less than 0.8 lb SO₂ per million BTU), medium-BTU (8,300 to 10,500 BTU per lb) coal, which is available in adequate supply and can be used as a fuel in an environmentally acceptable manner.

Page 5-4, paragraph 4, the following is added to clarify the route of the railroad from MLSES to the mine facilities area and the roads to be crossed by the railroad.

The selected route requires six (6) road crossings, none of which are at grade (i.e., the train will cross either over or under the road). All state and county approvals have been obtained for these crossings (see Appendix B). The following roads will be affected:

<u>Road</u>	<u>Distance from Railroad Origin in MLSES (miles)</u>	<u>Type of Crossing (railroad over or under road)</u>
FM 2685	0.7	Over
Unnamed County Road	2.6	Under
Unnamed County Road	5.0	Under
SH 43	6.9	Over
FM 1716	8.2	Over
	10.2	Over

Page 5-6, paragraph 3, the correct reference on mining equipment is:

(Bucyrus-Erie, 1982; Mattern, 1979; Price et al., 1973)

Page 5-11. The section on comparison of overburden handling alternatives should be revised to include the following statements:

Regarding alternatives 2 and 4 -surface mining regulations prohibit excess compaction when topsoil is redistributed (Section .337); therefore, this would not be a limiting factor as previously indicated in selection of either alternative.

Page 5-13, paragraph 3, add the following to the section on Pasture and Woodland:

The final vegetative cover for any given acre of land would be determined based upon factors such as: suitability of the land (e.g., steep slopes near water courses may be most suitable to woody species); adjacent vegetative cover (e.g., a small area of grassland partially surrounded by woody species may be most appropriate); desires of the land owner (e.g., lease conditions may specify the vegetative cover); or regulatory restrictions of the RRC (e.g., planting woody species may represent a land use change).

Page 5-13. Forest. Delete the first three sentences regarding level of management, expense, difficulty of accomplishment and commercial value to landowners attributed to reforestation as an alternative for revegetation.

Page 5-16. Comparison of Alternatives for Revegetation and Reclamation.

Upon re-evaluation of the alternatives considered for revegetation based on information provided by Texas Forest Service, Soil Conservation Service and individuals, the alternative for reforestation may meet criteria for success, local need and conditions, wildlife habitat and management costs as easily as an alternative for combination of pasture and woodland.

Page 5-17, paragraph 5: The figure showing the general sequence of mine blocks should be correctly identified as Fig. 1-2. The figure is included in this document as Fig. 1-1.

Page 5-18, paragraph 2, add the following information to describe how boundary and other markers are re-established after mining:

Official monuments, such as property corner markers, highway right-of-way markers and National Geodetic Survey (NGS) markers must be re-established. On leased land the original property lines will be re-established. TUGCO-owned land will be surveyed according to requirements for disposition and all original corners and boundaries may not be re-established. Highway right-of-way markers and NGS monuments would be re-established by the State Department of Highways and Public Transportation and the National Geodetic Survey, respectively. Other surveying would be done by TUGCO. All surveying in Texas is monitored by the Texas Board of Land Surveyors under the authority of the Land Surveying Practices Act of 1979. Surveying is monitored by registration of surveyors, release of manuals and guidelines to determine acceptable practices and, in some cases, by an investigation and hearing in response to complaints to the Board from a third party (or the Board may institute proceedings on its own behalf).

Page 5-25, loading station revisions are shown on Fig. III-1.

Section 5.2 ALTERNATIVES PROPOSED BY APPLICANT

Page 5-18, lignite and ash characteristics are shown in a summary table (Table III-2).

Page 5-26, paragraph 1, add the following additional information concerning the FM 782 relocation:

The relocations are planned to obtain lignite which lies beneath the present rights-of-way. About a 4-mile portion of FM 782 in the southern part of the project area would be diverted approximately 1,500 ft to the east onto land reclaimed after mining. It would tie into the existing road through gentle curves (i.e., no right-angle corners). No agreements have been established between TUGCO and the State Department of Highways and Public Transportation for the proposed FM 782 relocation.

B. REVISIONS TO CHAPTER 6.0--ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

Section 6.2 SOILS AND PRIME FARMLAND

Page 6-15, paragraph 6, the reference regarding Miscellaneous Land Types was incorrect and should read:

Because miscellaneous land types occur in small scattered acres, this group could not be shown at the map scale presented in Fig. 6-5 but is shown in Fig. 6-6 as Map Unit 21.

Page 6-17, paragraph 1, estimated acreage of prime farmland soil to be lost by the Dry Creek diversion was incorrect and should read:

A 2,000-foot stretch of Dry Creek is planned to be diverted for mining a lignite seam beneath the present channel during the first five years. Approximately 30 acres of prime farmland soils affected by the diversion are addressed in Sec. 6.2.3.4.

Page 6-18, paragraph 2, more detailed information shows that the acreage disturbed by ancillary facilities construction would be greater than originally estimated and should read:

The construction of the ancillary facilities would disturb about 210 acres, the railroad about 273 and the transmission line about 114 acres. The SWEPCO transmission line relocation and proposed TUGCO 138 kv line within the same corridor would disturb about 100 acres. The activities would constitute a long-term adverse impact on a total of about 697 acres where reclamation would not be initiated for at least 30 years. Of these approximately 226 acres are prime farmland soils.

The same total acreage applies to the entire discussion on page 6-18.

Page 6-18, paragraph 5, Characterization of Overburden. Physical and chemical data from the five cores is provided in Appendix B. TUGCO proposes these cores are acceptable to RRC as representative of the first five-year mine area. The five cores do not characterize the entire project mine area.

Page 6-19, Table 6-2, to provide additional data on the calculation of average potential acidity in each core with Alternative I. Mixed Spoil, footnote I should read.

Tons of CaCO_3 needed per acre to neutralize a six-inch layer of soil. The average potential acidity in each of the five cores for Alternative I was calculated as: Core No. 972, 0.0; Core No. 1128, 1.5; Core no. 964, 8.3; Core No. 1009, 21.3; and Core No. 562, 27.5. See Fig. 6-2 for the location of the cores. The calculations can be made in the following manner, using data for core hole #1128:

Segment No.	(A) Thickness (ft)	(B) Neutralization Potential	(C) % Total Sulfur ²	(D) B - C ³	(E) A x D ⁴
5-1	11.8	-0.53	0.31	-0.84	-9.91
5-2	16.2	5.00	0.31	4.69	75.98
5-3	12.0	1.25	0.31	0.94	11.28
5-4	7.0	-0.95	0.31	-1.26	-8.82
5-5	1.3	0	23.4	-23.40	-30.42
5-6	3.3	2.73	11.3	-8.57	-28.28
5-7	9.8	3.80	14.7	-10.90	-106.82
TOTAL					-96.99 ⁵

¹The measure of residual bases in the soil expressed as tons of CaCO_3 per 1,000 tons material. A negative number means the soil is acidic.

²The measure of pyritic sulfur (acidity) expressed as tons of CaCO_3 per 1,000 tons material.

³The acidity of each core segment calculated by subtracting acidity value from residual base value. A negative number indicates potential acidity.

⁴The weighted average acidity of each core segment calculated by multiplying the acidity times the segment length. A negative number indicates potential acidity.

⁵The arithmetic total of weighted average acidity of each segment. The negative sign indicates potential acidity.

Then the average acidity of a hypothetical random mixture of the core can be calculated by dividing the total weighted average acidity (-96.99) by the length of the core (64.1 feet). The resulting number (1.5) expresses the potential acidity of such a mixture in terms of tons of CaCO_3 per 1,000 tons of material.

Page 6-20. Alternative 1. With the use of lime to neutralize acid, reburial of the acidic surface layers and/or covering the area with topsoil, impacts from excess acidity and release of heavy metals are reversible on a relative short term for each individual occurrence. As pointed out in other sections, acid forming materials oxidize at varying rates and as this alternative has greatest potential for such material to occur at or near the surface (as the layers just above the lignite are last removed from a pit and placed on the adjacent open pit, then smoothed out) the impacts may occur over a long period of time where maintenance of vegetation after bond release may be less and breaks down to re-expose surface. Adverse impacts would result from low fertility, little or no organic matter, little or no soil microbial population, lack of surface structure and surface crusting. These would be expected to be reversed as fertilizer is applied and vegetation re-established, however, the short term, one to two years, is withdrawn from the prediction.

Page 6-25, paragraph 2, since the estimate of the total area to be disturbed by construction of the ancillary facilities has increased, the area of prime farmland soils to be disturbed also has increased and lines 2 and 3 should read:

Construction of the ancillary facilities, railroad spur and transmission lines would require disturbing a total of approximately 226 acres of prime farmland soils. As much as 140 acres of prime farmland soils might be disturbed by construction of the ancillary facilities area.

Page 6-25, paragraph 3 also should address the revised total acreage of disturbed prime farmland soils:

The disturbance of 226 acres is considered a long-term adverse impact to prime farmland soils. This impact is irreversible (therefore significant) for a presently unknown portion of the 226 acres.

Page 6-26, paragraph 1, should contain the corrected estimate of luka soil to be disturbed:

Approximately 30 acres of luka soil would be disturbed by the temporary diversion of a 2,000-foot section of Dry Creek.

Page 6-26, Revise discussions on mining regulations on soil. Mining regulations require use of topsoil on all areas.

RRC designated prime farmlands would require selective handling of several layers. To propose an alternative without use of topsoil, for any area, requires obtaining a variance from RRC. To selectively handle a layer (such as topsoil) or a type of material (such as oxidized material) need not mean stockpiling--but could be accomplished by a combination of machinery such as bucket-wheel excavators, conveyors and draglines.

Page 6-27, paragraph 3, the information on pyrites should be revised to read:

Pyrite can vary significantly in particle size and physical form. It has been found in at least six different forms in coal deposits. The most reactive form is framboidal pyrite which has particles less than 0.0004 inches in diameter. The rate of breakdown (oxidation) of pyrite is not constant over time and may depend upon pH, the amount of oxygen present, the presence of breakdown products and other factors. The addition of lime, to raise the pH, tends to slow down the breakdown of pyrite. The addition of lime to control pH during early reclamation efforts could actually extend the period of time over which lime is needed. The low pH caused by the breakdown of pyrite has an adverse effect on the growth of most plants and interferes with successful reclamation. In addition to the direct effects on plants, low soil pH also increases the rate of release of certain heavy metals (copper, nickel, zinc, manganese or iron) causing the amount of these metals in soil to reach a level which is toxic to plants. This causes further problems with reclamation and revegetation. The RRC regulations call for the successful revegetation of mined lands and establish a period of extended responsibility (during which the land is under bond) for the permittee to demonstrate successful reclamation. No such protection exists to guarantee control of pH and metals after reclaimed land is released from bond.

Page 6-28, paragraph 1, the discussion of fertilizer and lime requirements should be revised to include the following statements:

Although given as data from 1981, the figures are proposed by TUGCO as the requirements from year two through five of reclamation. No reclaimed mine land in

Texas has been released from bond and fertilizer and lime requirements over time cannot yet be determined.

Section 6.3 GROUND-WATER RESOURCES

Page 6-30. Existing Environment. The Draft EIS states that groundwater in the shallow system (Carrizo and upper Wilcox) occurs under water table (unconfined) conditions. It should be added that this is on part of the area; however, on some of the project area, artesian conditions exist as demonstrated by on-site pump test data.

Page 6-30, Paragraph 1. Regarding water wells. It has come to our attention that other water wells occur in the project area which are not shown on the Draft EIS Map, Fig. 6-7. See the comment letters, including Mr. Green's letter and Mr. and Mrs. Gus Brown's statement, pointing out wells that are not included. The information has been passed on to TUGCO for addition to project plans and for complete presentation in any mine permit application for determination of settlement on wells affected (Final EIS, Part II).

Page 6-33. Regarding ground water recharge and movement. The question of leakage can only be determined on the basis of appropriate pumping test and observation well data with wells completed to the depth of the lignite seam and wells completed in the first significant aquifer below the lignite seam to be mined. Dr. Mathewson has described the reference cited as a generic study and states the need for more site specific data exists (Telecommunication, August, 1983).

Page 6-37, Table 6-5 included data on TDS concentrations that were incorrect, information now provided is:

Sample Location	TDS (mg/l)
Pump Well	240
Test Pit	140

Page 6-39, paragraph 2, line 17 included reference to the incorrect alternative and should read:

Alternatives 3 and 4 would result in two layers (oxidized and unoxidized zones) with permeabilities reflecting the percentage of sand, silt and clay in those layers prior to mixing.

Page 6-39. Impacts of Project Alternatives on Groundwater. Regarding impacts on the public water supply wells and other wells completed in the deeper Wilcox aquifer--note that if depressurization of the deeper Wilcox is not required for mining and there is no connection between that aquifer and the upper aquifer, then reduction of water levels in the lower Wilcox, or of production from the wells is not expected. There are numerous clay and lignite strata between the lignite to be mined and the lower Wilcox as shown in Figures 6-3 and 6-4. The clay strata vary in thickness from about 2 to 20 feet. Cumulatively they have a thickness of over 50 feet and extend over the entire area. Analysis of electric logs taken from the first five-year mining area shows that these clays are typical of the low permeability clays characteristic of the Wilcox formation. The clays should provide a barrier separating the upper and lower Wilcox aquifers.

Page 6-39, paragraph 2. Corrections to predicted effects should be added.

The proposed alternative 1 (mixed spoil) and Alternative 2 (topsoil over spoil) would significantly disrupt the aquifer system extending for a long-term after recharge is complete. Alternatives 3 and 4 which include handling of two layers (oxidized and unoxidized) of materials would provide some aquifer rebuilding--and could be further refined to selective handling of Carrizo sands and of Wilcox materials.

Page 6-39. Section 6.3.3.2 Dewatering, the area of influence on water levels by the dewatering that occurs from mining alone and by well pumping (to ensure highwall stability) has been re-evaluated. Evaluation was based on the Theis non-equilibrium equation using Selected Hand-Held Calculator Codes for the Evaluation of Cumulative Strip-Mining Impacts on Groundwater Resources, prepared for the Office of Surface Mining (Prickett and Voorhees, 1981). Transmissivities used were the high, low, and average transmissivities from the pumping test data provided by TUGCO. Storage coefficients of 0.01 (water table conditions) and 0.0001 (artesian conditions) were used. Dewatering of a pit 5,000 feet long was simulated by evaluating a line of pumping wells. Pumpage was adjusted to cause 150 feet of drawdown at the line sink. The line sink model more closely approaches conditions that will occur during mining operations--as actual dewatering would be expected as a lineal sink, in the form of wells or seepage into the mine. The water level drawdowns at distances of 3,800, 10,000 and 15,000 feet from center of line sink were calculated:

Drawdown Due to Line Sink

Storage Coefficient	Transmissivity (gpd/ft)	Distance (ft) Perpendicular from Center of Line Sink	Draw down ^{1,2} (ft)
Artesian Conditions			
.0001	6,712	3,800	108
		10,000	85
		15,000	75
.0001	14,296	3,800	109
		10,000	88
		15,000	79
.0001	20,952	3,800	113
		10,000	92
		15,000	82
Water Table Conditions			
.01	6,712	3,800	80
		10,000	43
		15,000	28
.01	14,296	3,800	86
		10,000	53
		15,000	38
.01	20,952	3,800	92
		10,000	59
		15,000	44

¹ These calculations assumed complete saturation of 150 feet overburden. For saturated overburden of less than 150 feet use:

$$\frac{\text{Thickness of saturated overburden}}{150} \times \text{Calculated drawdown} = \text{Drawdown}$$

² Drawdown would be affected (i.e., it could be less) by varying subsurface conditions in the horizontal dimension; information available to EPA is not adequate to fully determine these conditions.

The 3,800 feet radius of influence distance to zero drawdown stated in the Draft EIS could not be verified using any of the transmissivity figures stated in the DEIS (from literature on the region or from site data) and is withdrawn. (The radius of influence distance in the DEIS also was based on 150 feet drawdown at the sink.) Subsurface conditions likely are different in other areas of the project, therefore, other site-specific tests and data are needed to estimate effects under different conditions.

Should Texas Utilities carry out additional studies to examine the varying subsurface conditions at the site, it is desirable that the studies obtain data from appropriately located and installed test wells--and that pumping test data based on pumpage of at least a week's duration be utilized. It is desirable that such a study be planned and coordinated with TDWR and EPA; both agencies are interested in accurate information on impacts from the specific project as well as the addition of information to the State's hydrologic information base.

Page 6-44, paragraph 3, lines 3 and 4 contained a mix-up in alternative number and should read:

Postmine recharge from precipitation might be slightly reduced regardless of the overburden handling alternative used since the overall permeability of the replaced overburden would be less than that of the premine overburden. Alternatives 2 and 4 (those with topsoil replacement) would cause a greater reduction (than 1 or 3) in infiltration rates if the "A", "B" and "C" horizons were used.

Page 6-44, paragraph 3. Regarding recharge. The statements on recharge are qualified by other information regarding recharge in the Carrizo-Wilcox aquifer. Information from a surface lignite mine in Milam County indicates recharge occurred in 25 years. However, this is considered an ideal situation, a "forced recharge" for groundwater recovery, in that abandoned pits remained which held precipitation and recharged horizontally. Calculations in the DEIS (pg. 6-44) based on recharge by infiltration used a 20 percent porosity. Porosity could easily be 30 percent, requiring a longer recharge period. Therefore, the estimated time for recharge at this area should be increased to more than 25 years. Recharge from below would be essentially nonexistent because of the multiple strata of low permeability clay (see corrections to pg. 6-39) between the lower Wilcox and the replaced spoil.

Mitigation measures that could be undertaken to reduce the significant long-term effects on the aquifer include use of end pit lakes to force recharge or/and use of overburden handling procedures similar to alternatives 3 and 4, generally replacing Wilcox material in the bottom of the mined pit and Carrizo material above that. Other machinery could be combined with the draglines to reduce acreage involved as shown in the Draft EIS for Alternatives 2, 3 and 4.

Monitoring of wells (or piezometers) installed in mined/recontoured areas should be used to determine the rate of recharge and the need for changes in mining procedures to reduce impacts on ground water.

Page 6-46, delete paragraphs 2, 3 and 4.

Page 6-47, delete paragraphs 1 and 2. Add:

Data from Martin Lake "A", "B" and "C" monitoring wells was provided in Draft EIS Appendix G. The data show there has been no contamination of those wells. However, EPA now believes that the location of the wells are at such a distance from mining that a conclusion cannot be drawn from the monitoring, as mine waters would not yet have moved that far.

Measures could be taken early to monitor for and mitigate for degraded groundwater. Piezometers could be installed in the mined areas to monitor changes in water quality to determine need for lime (or other treatment) of spoil to prevent increased acidity and leaching of constituents, or need for revising of mining/spoil handling alternatives to prevent occurrence of unoxidized materials in the zone of infiltrating waters. Surface mining regulations require monitoring but plans have not been developed for this project and are not available for public review.

Page 6-47, paragraph 3, Discussion on Ground Water Supply should be revised to provide a more detailed explanation of possible procedures for compensation if water wells are affected, directly or indirectly, by mining activities:

Some of the 142+ wells in the mine area would be eliminated and other wells could be indirectly affected. The compensation measures applicable to eliminated wells are cash settlement, redrilling the well, or connection to a public water supply. Which measure is selected depends upon the lease agreement terms. Replacement wells could be completed in the deeper Wilcox sands. Compensation by connection to a water supply system could be to one of the existing systems (depending upon the property location) or to another system, if one existed at the time of compensation. Surface mining regulations (with RRC as the delegated authority) require compensation for affected wells even if they are located on land the permittee does not own or lease. Compensation measures would be the same as for wells covered by lease agreements. The impact to ground-water production in the units above the mined lignite is considered a significant and long-term adverse impact but not irreversible.

Section 6.4 SURFACE-WATER RESOURCES

Page 6-51, Hydrologic Characteristics, the discussion of soil associations categorized into different Hydrologic Groups (based on runoff potential) does not relate those associations to Soil Group I through IV (pg. 6-11) which are based on features other than runoff potential; to clarify this, both Hydrologic Group and Soil Group designations should be given for each association and the following changes are needed:

Paragraph 3:

The Kirvin-Bowie-Cuthbert soil association (Soil Group II, pg. 6-14) has an overall Hydrologic Group Classification of C.

Paragraph 4:

The Nacogdoches-Trawick soil association (Soil Group I, pg. 6-11) has a hydrologic classification of B.

Paragraph 5:

About 10 percent of the project area is made up of soils in the Lilbert-Tenaha association (Soil Group III, pg. 6-14).

Paragraph 6:

Soils of the Nahatachie-Mantachie association (Soil Group IV, pg. 6-15) are found along Mill Creek and Tiawichi Creek in the project area.

Page 6-68, paragraph 2, sentences 3 and 4 regarding retention of flood waters due to need to meet pH, iron, manganese and total suspended solids limits.

It should be noted that due to changes in the standards, Federal Register, October 13, 1982--treatment pond discharges from mines are exempt from limits on pH, total suspended solids, manganese and iron during rainfall events. Instead, less stringent limits using the "settleable matter" parameter are in effect. Therefore, retention time could be less than previously explained. Additionally, based on the above and re-evaluation of other assumptions, for example, that soil runoff characteristics from premining conditions remain unchanged for all overburden handling alternatives--EPA has determined a level of confidence cannot be placed on the study. It may be considered reasonable for a preliminary study; any further study should be fully coordinated with the Texas Department of Water Resources and the Sabine River Authority.

Page 6-73, paragraph 2, add the following to clarify that the past performance of an applicant is considered during the mining permit application process:

TUGCO's record of compliance (past performance) also will be considered by the RRC during the mining permit application process. The Texas Surface Mining and Reclamation Act requires the RRC to deny a permit to any applicant "with a demonstrated pattern of willful violations." See Appendix B for a listing of violations and corrective actions by the company which were submitted for an RRC permit at the railroad loading and dragline maintenance facility. The RRC did not find a pattern of willful violations.

Page 6-73, paragraph 2. Revise to include these concerns on surface-water quality:

A state agency has pointed out that sediment pond treatment has not been effective in preventing excessive sediment from entering streams from mined areas. Also, while sediment pond water discharge samples have not indicated toxic levels to fish (at the existing Martin Lake areas), data from sediment in streams below discharges is not available. Further, inconsistencies in ambient stream data on and below the Martin Lake D project area are noted by Texas Department of Water Resource (TDWR letter to EPA, Part II.B, Final EIS). The Draft EIS discussed (page 6-58 and page 6-62) constituents that exceeded water quality standards or drinking water standards. These are: mercury, phenols, pH, alkalinity, dissolved solids, suspended solids, turbidity, and ammonia. Additionally, groundwater data for the area show manganese, mercury, iron, phenols, copper, and pH levels that exceed limits--with ammonia and arsenic close to

limits. Groundwater will be pumped out of pits to sediment ponds and eventually discharged to streams with mine area surface runoff and constitutes a source to be considered in determining limits on pond discharges to streams. Further, surface spoil materials constitute a source of acidity of surface waters.

With these concerns in mind, EPA has made the following determinations to protect the surface water: based on occurrence of surface waters, on site, with pH as low as 5.3 and 4.3 at TUSI 1 and 2 sampling stations shown on Fig. 6-13 (Draft EIS) and groundwater with pH as low as 4.3--any NPDES permit should be based on the acid mine drainage sub-category new source performance standard. Effluent characteristics, discharge limitations and monitoring requirements would be as follows:

Effluent Characteristic

Discharge Limitations

Flow-m³/Day (MGD)
Total Suspended Solids
Iron, Total
Manganese, Total
pH

Daily Avg.	Daily Max
Report flow	Report flow
35.0 mg/l	70.0 mg/l
3.0 mg/l	6.0 mg/l
2.0 mg/l	4.0 mg/l
shall not be less than 6.0 standard units nor greater than 9.0 standard units.	

Effluent Characteristic

Monitoring Requirements

Flow-m³/Day (MGD)
Total Suspended Solids
Iron, Total
Manganese, Total
pH

Measurement Frequency	Sample Type
One/day	Estimate
One/day	Grab
One/day	Grab
One/day	Grab
One/day	Grab

¹ When discharge occurs

EPA has determined to require, by special provision to the permit, water quality monitoring on a quarterly basis at the TUSI 1, 2 and 5 sampling stations. Parameters to be sampled, analyzed and reported are pH, ammonia, mercury, phenols, alkalinity, turbidity, total suspended solids, and total dissolved solids (see Appendix A, Part III of draft permit). Locations of proposed sampling stations are shown on Fig. III-2 of this FEIS. Previous sampling locations were shown in the DEIS on pages 6-59 and 6-63.

Because of concerns for potential water quality impacts to the downstream drinking water supply and due to the important water quality function of wetlands--a provision is applied to the permit to require the company to submit site specific plans to the Corps of Engineers for each proposed wetland area discharge and obtain a Clean Water Act Section 404 authorization from the Corps of Engineers.

A sewage treatment plant, for secondary level treatment of sanitary waste, is proposed at the railroad loading and mine maintenance facility. Effluent characteristics, discharge limitations and monitoring would be as follows (see Appendix A, draft permit):

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	Other units (specify)		Measure- ment Freq.	Sample Type
Flow-m ³ /Day (MGD)	Daily Avg	Daily Max		
Total Suspended Solids	Report Flow		1/week	Grab
Biochemical Oxygen Demand (5-day)	30 mg/l	45 mg/l	1/week	Grab
pH	30 mg/l	45 mg/l	1/week	Grab
	Not less than 6.0		1/week	Grab
	standard units nor			
	greater than 9.0			
	standard units			

Page 6-75, the TDWR allowable concentrations given in Table 6-15 were for daily averages (of multiple samples in a 24-hour period) when the applicable standards are for grab samples, i.e., the concentration of an individual sample collected in less than 15 minutes. Insert the following standards:

Revised Table 6-15 (in part)

Metal	TDWR Allowable Concentration, Grab Sample (ppm) ^{2,4}
Manganese	3.0
Selenium	0.2
Arsenic	0.3
Cadmium	0.2
Chromium	5.0
Lead	1.5
Mercury	0.01
Zinc	6.0

²ppm - parts per million

⁴SOURCE: Texas Department of Water Resources, 1979.
Permanent Rules, as amended. Section 156.19.15.002.
Austin, Texas.

Section 6.5 WETLANDS AND FLOOD PLAINS

Page 6-79. Impacts of Project Alternatives, add the following regarding value of wildlife habitat and recommendations:

The U.S. Fish and Wildlife Service (FWS) classified the bottomlands and wetlands as Resources Category 2, of high value for wildlife evaluate species and scarce or becoming scarce (Federal Register 46(15): pages 7644-7663, January 23, 1981). FWS recommends "in kind replacement of floodplain wetland communities during reclamation and calls for specific measures to restore the hydrologic balance in wetland areas, establishment of wetland vegetation and management practices to promote long-term recovery of the ecosystems (U.S. Department of Interior letter to EPA, Final EIS, Part II.B).

EPA has further evaluated potential impacts of the project proposed, including the concerns stated above and particularly the water quality improvement function of the wetlands in relation to the downstream drinking water supply. In addition, no site specific plans regarding restoration of the hydrologic regime (which includes surface and ground water) based on site specific information regarding characteristics of mine spoil that will occur at the surface or near surface in these wetland areas, are available. EPA has coordinated with the Corps of Engineers regarding this project evaluation. Subsequently, a provision has been put on the draft permit which requires that TUGCO submit specific plans for each wetland area discharge proposed to the Corps of Engineers for authorization by the Corps under Section 404 of the Clean Water Act.

Section 6.6 TERRESTRIAL BIOLOGY

Table III-1 in this Final EIS is provided as a comparison table of vegetation types and land use categories in the project area. The table may be used as a reference to prevent misunderstandings which could be caused by different acreages for similar categories.

Page 6-95, paragraph 3, the sentence concerning the transmission line relocation should be changed to read:

The SWEPCO transmission line relocation and the TUGCO 138 kv line construction within the project area would preempt an additional 100 acres; of which 6 acres are bottomland hardwoods, 5.5 acres are pine plantations, 31 acres and pastureland, and 50.5 acres are regeneration/cutover areas and upland pine/hardwood forest.

Page 6-95, paragraph 3, add the following sentence to reflect the improved estimate of total acreage and vegetation types to be disturbed by construction of the mine facilities area:

The mine facilities area (Fig. III-1) (office, shop, train loading station, dragline erection pad, etc.) would preempt about 210 acres composed of pastureland (126 acres); upland pine/hardwood and regenerative forest (55 acres); pine plantations (21 acres); and cropland (8 acres).

Page 6-96, paragraph 3, in response to several comments about the percentage range for planting of woody species and to better explain the factors involved in determining final vegetative cover, add the following sentences between lines 11 and 12:

This percentage range is vague but represents TUGCO's commitment. The final vegetative cover established on any given acreage may be based upon factors such as: suitability of the land (e.g., steep slopes for woody species); adjacent vegetative cover (e.g., establishing "pockets" of woody vegetation within pastureland); landowner desires (e.g., lease conditions); and regulatory decisions of the RRC (e.g., on land use changes). To be consistent with the total acreage to be mined ($17,916 - 2,000 = 15,916$), the 10 to 50 percent range for upland pine/hardwood reforestation would amount to 1,592 and 7,958 acres respectively.

Page 6-98, Table 6-17, revegetation species for wildlife habitat, should have the following note added at the bottom:

Note: This list represents those species which might be used during reclamation. Inclusion of any species does not mean that it would be used, only that TUGCO has the option to use it if conditions warrant. Some nonnative species are included for potential use in special circumstances such as: (1) unavailability of native species; and (2) more optimal growth compared to native species.

Page 6-100, paragraph 3, line 5 should be changed to emphasize that the percentage range for final vegetative cover represents TUGCO's commitment at this time:

From 50 to 90 percent of the mined area would be reclaimed as improved pasture (TUGCO's commitment).

Page 6-100, paragraph 4, change sentence 2 to include that a ground cover such as clover also would be planted, delete sentence 3 and add the following sentence after the sentence ending "... mature forests.":

Immature forests not only represent future timber resources but provide benefits such as; rebuilding the soil, soil stabilization and cover for wildlife.

Page 101, last paragraph, and page 102. Add the following regarding mitigation to wildlife habitat loss:

While a project specific revegetation or a fish and wildlife plan has not been developed, the general measures discussed in the Draft EIS would reduce habitat loss where carried out.

Other possible mitigation measures for loss of wildlife habitat from the reclamation proposed could include making lands available to Texas Parks and Wildlife Department for wildlife management after bond release. Through their programs, areas may be utilized for displaying applied range and wildlife management practices as well as for research under controlled conditions. Some areas may be used to provide brood stock for depleted wildlife ranges. Possibilities for recreational use by the public are considered. Measures are taken to ensure lands have food and cover for wildlife, for example, this may require planting grain or providing other vegetation such as woody shrubs if an area contains primarily coastal bermuda grass. Management may include grazing practices and utilization of hunting to regulate wildlife populations. Where public recreation is considered, access to an area and the number of persons are taken into account in planning; for example, this may include hunter permit drawings where hunting is part of the management. Actual procedures for a given area are based on a mutual agreement between TPWD and landowners, which in this case would be TUGCO. This information has been forwarded to TUGCO with a request for their consideration for entering into such an agreement as a potential enhancement measure for the Fish

and Wildlife Plan for the mining permit application to the Railroad Commission of Texas.

Section 6.9 ARCHAEOLOGICAL AND HISTORICAL RESOURCES

Page 6-113, Table 6-18 should have the following added after Site No. 4IRK124 to incorporate additional information about the Vinson Plantation which was provided by the Texas Historical Commission; as well as recommendations for the four prehistoric sites:

Site No.	Site Name	Survey/ Reference	Cultural Affiliation	Recom- mendation
4IRK128	Vinson Plantation	THC 1983	Historic	"NRHP" ¹
4IRK130	Irwin Cemetery	TAS 1983	Historic	Avoid
4IRK106	Unnamed	TAS 1980	Prehistoric	Test/"NRHP" ¹
4IRK109	Unnamed	TAS 1982b	Prehistoric	Test/"NRHP" ¹
4IRK110	Unnamed	TAS 1982b	Prehistoric	Test/"NRHP" ¹
4IRK111	Unnamed	TAS 1982b	Prehistoric	Test/"NRHP" ¹

¹Potentially eligible for the National Register of Historic Places

Page 6-116, after paragraph 5, add the following paragraph regarding the Vinson Plantation:

Site 4IRK128, Vinson Plantation may fall within the project area. The house, a single story classic Anglo center-hall house, is still standing but is not in good repair. The Texas Historical Commission, in a letter to EPA dated April 26, 1983 (see Part II), states that the Vinson Plantation is potentially eligible for the National Register of Historic Places.

Page 6-117, paragraph 1, add the following information concerning the Irwin Cemetery and other cemeteries which could occur in the project area:

Several cemeteries, in addition to those listed in Table 6-18, occur throughout the project area. One such cemetery, the Irwin Cemetery, was located for EPA by Mr. Prentis Irwin (letter, Part II, FEIS) and was then surveyed by archaeologists from the Texas Archaeological Survey in 1983. The cemetery contains 13 graves with the oldest burial date being 1863 and the latest 1880. Three family names (Irwin, Sanders and Jones) are represented with traditionally shaped markers. The cemetery is located just east of SH 322 about 0.3 miles south of the Crims Chapel Cemetery (see Fig. I-2A. It is not located in the first five year period area, but if mining takes place near the cemetery at a later date, RRC regulations as well as specific state law require that it be avoided. Texas Utilities has been notified to place the cemetery location on mine plans.

Page 6-118, after Paragraph 1, add the following on mitigation measures and findings on the Walling Cabin:

The Walling Cabin, 41RK104, was determined eligible for nomination to the National Register of Historic Places based on surface survey information, archival determination of its age (1841) and its attribution to an early Rusk County settler. Mitigation was required by EPA and the Texas State Historic Preservation Officer to provide protection for the historic and architectural significance of the cultural property. Texas Archeological Survey of the University of Texas at Austin was responsible for:

- 1) Archival search and review aimed at establishing as complete a documentation/background as possible.
- 2) Mapping the site.
- 3) Producing a photographic record to Historic American Building Survey standards.
- 4) Surface and subsurface artifact recovery, fracture identification and appropriate documentation utilizing visual and metal detector search, hand excavation and machine dug test trenches.
- 5) The conduct of collection, sampling, testing and salvage operations as dictated by the initial surface and subsurface collections/excavations.
- 6) The production of a report on the above actions and their results.

Archival study has enriched the history of the cabin's occupancy and given important insights into its possible furnishings. Photographic documentation fulfills Historic American Building Survey criteria for National Register of Historic Places nominees and provides a basis for reconstruction. Analyses of the building materials has identified construction techniques and differentiated between original and replacement structural components. As the restoration and eventual nomination to the National Register at the new site depends upon accurate reconstruction using original materials or reuse of others of that time period, this facet of the study, coupled with the subsurface excavations, was of prime importance. For example, the original hypothetical plan of the structure indicated a masonry chimney based on the exposure of a rock base. Excavations at the foundation uncovered undressed dry-masonry laid stone which was considered evidence for foundation for a mud cat type chimney originally. Handmade bricks uncovered indicate that a brick chimney was later constructed, but probably after 1843, when bricks as well as brickmasons were more available (according to the census). No stone masons were listed on the census.

Metal detector searches, followed by subsurface sampling, provided a large sample of artifacts, largely from the later periods of the cabin's occupancy. The few early examples will be used as part of a museum display in the reconstructed cabin. Numerous associated features such as wells, root cellars, and chicken houses, were documented in this study and the absence of others explained by modern land use which probably obliterated any traces.

Restoration of the cabin is expected to be complete in mid-September in time for Henderson's centennial celebration. Data derived from the archeological study has been supplied to the Rusk County Historical Commission to assist them in determining the original materials and construction techniques used. All replacement parts, necessary where original materials had deteriorated or were absent, have been obtained from sources known to date to the appropriate period. The structure, when nominated for the National Register, will consist of the original single-pen log structure slightly modified by the addition of entrances cut during its first decade and a fireplace-chimney of handmade brick, the first permanent materials employed.

A complete report in the form of a Technical Bulletin will be available from Texas Archeological Survey.

Page 6-118, last paragraph. Regarding four significant prehistoric sites in first 5-year area, add:

The route for relocation of the SWEPCO transmission line and a recently proposed TUGCO 138 kv line in the same corridor is proposed as shown on Fig. 1-2B. While the corridor is proposed to avoid 41RK106, 109, 110, and 111, the area is considered a high probability area for cultural resources and construction of the new line and the relocation of the SWEPCO line present a source of potential impact. The east-west segment of the proposed corridor (Fig. 1-2B) has now been intensively surveyed (October, 1983). Preliminary information is that no sites were found. Texas Utilities is expected to provide any measures necessary to comply with the MOA regarding high probability areas and discovery of sites during construction.

Section 6.10 AIR AND SOUND QUALITY

Page 6-120, paragraph 2 should be deleted and replaced with the following paragraph to clarify the existing regional air quality and to include information provided by the Texas Air Control Board.

The air quality in the project area is acceptable. The project is located within Air Quality Control Region (AQCR) 022. The proposed facilities are in a location that meets both national primary and secondary air quality standards for carbon monoxide, nitrogen dioxide, sulfur dioxide and particulates (TSP). It is, therefore, in a designated "attainment area" for those criteria pollutants. Rusk County has been designated as "unclassifiable" for ozone and there has been no designation established for lead.

Page 6-126. The question of the amount and impacts from controlled crusher emissions was raised; calculations of the primary crusher emissions and impacts should be added to the section on impacts of project alternatives:

The 18 TPY of controlled process emissions are calculated from data for release of emissions from crushers (EPA, 1977a) and project-specific information. Crushers release emissions at a rate of 0.02 lb per ton of material crushed and TUGCO states they will process 3.5 million tons/year of lignite. Thus the crusher would release 35 tons/year of uncontrolled emissions ($0.02 \text{ lb/ton} \times 3.5 \text{ million tons/year} \times 1/2000 \text{ lb/ton}$). The crusher emissions will be controlled by water sprays which are 50 percent efficient, so the controlled release will be about 18 TPY ($35 \text{ tons/year} \times 0.50 = 17.5 \text{ tons/year}$). The TACB, in a letter dated March 8, 1983 (see Appendix B), has exempted the facility from the TACB permit procedures "because it will not make a significant contribution of air contaminants to the atmosphere . . ." According to the level of significance used by TACB, this means that the fugitive emissions will add less than 1 microgram ($1/1,000,000 \text{ grams}$) per cubic meter of air for the annual average and less than 5 micrograms per cubic meter of air for the 24 hour average. No dust problems from crusher emissions are expected beyond the permit boundary nor at the nearest residences.

Page 6-126, paragraph 4, delete the EIS reference to a generic dust control plan; it is unknown what will be submitted to RRC, but the regulation appears to call for a site specific plan per mine area.

Page 6-132, paragraph 2, insert the following sentences between lines 12 and 13 to provide additional information on the frequency and length of time worst-case noise conditions might occur near the community of Oak Hill:

If worst-case conditions were to occur, operations near the edge of the nearest pit would occur for 24 hr/day for about a one week period four to five times per year over a one and one-half (1½) year period. That is, worst-case conditions might occur about seven to eight times for one week periods.

Section 6.11 LAND USE AND RECREATION

Table III-1 in this Final EIS is provided as a comparison table of vegetation types and land use categories in the project area. The table may be used as a reference to prevent misunderstandings which could be caused by different acreages for similar categories.

Page 6-139, paragraph 3, the description of timber production should be corrected to state:

In 1979, there were five saw mills in Rusk County producing 50,469,000 board feet of pine and 2,053 pine ties (from a total of 71,291 cross-ties produced).

Section 6.16 TRANSPORTATION

Page 6-164, paragraph 1, add the following additional impacts from construction of the over- and underpasses for the railroad between MLSES and the mine area:

The construction of railroad overpasses on SH43 and FM 1716 will cause disruption of traffic for about 4 months. All necessary state and county approvals have been obtained for the railroad crossings and all crossings will be constructed before expected traffic increases occur from other mining activities and induced population. See Appendix B for approvals.

Page 6-164, paragraph 5, add specific impacts expected to existing roads:

Based on past experience with similar operations by the State Department of Highways and Public Transportation (SDHPT) area highways deterioration would be escalated by project activities such as hauling heavy equipment to and from the mine; hauling lumber, topsoil, ore, gravel and clay from the mine; and hauling crushed limestone to the mine. Many loads would be expected to require SDHPT permits due to load weight. Presently, due to overweight hauling, farm road rebuilding projects over more than ten miles of roads in Rusk County are costing an average of \$80,000 a mile (SDHPT comment letter to EPA, Part II FEIS).

Page 6-164, paragraph 5, in response to a comment from the State Department of Highways and Public Transportation more information was obtained concerning potential mitigation of road deterioration caused by construction-related truck traffic; the following sentences should be added to the end of the paragraph:

Several methods could be useful in mitigating the impact of road deterioration. Truck routing could be specified to prevent continued passage of heavy trucks over the same roads. Contractual agreements could be effective in reducing the incidence of overweight vehicles reporting to the job site. This approach requires that suspect vehicles be individually weighed at the job site prior to delivery of materials and that

overweight shipments be rejected. Maintenance agreements, between constructors and the SDHPT, could be negotiated which call for the constructors to provide maintenance on affected roads. TUGCO and the SDHPT do not presently have any agreement covering mitigation of road deterioration (SDHPT, telecommunication, 1983).

Section 6.18 CUMULATIVE IMPACTS

Figure III-3 shows the general location of the eight projects considered during the cumulative impacts analysis. Figure III-4 shows a more detailed relationship of four of those projects to the "D" area.

Page 6-168. Geology and Topography. The sentence regarding the acreage of site specific impacts should read:

The mine projects would cause site specific adverse impacts to more than 100,000 acres of presently undisturbed geologic units.

Page 6-168. Groundwater Resources. Delete the last three sentences and state:

Recharge of the spoil would likely take more than 25 years, but would depend on site specific factors and whether any measures to force recharge (such as with end pit lakes) or to rebuild the aquifer (with selective spoil replacement) are taken. The level of groundwater contamination by leached constituents from the spoil will depend on spoil handling/reclamation procedures. (Some mine projects in the Carrizo-Wilcox predict significant increase in Total Dissolved Solids and in leached metals.) No monitoring data available on present mine projects can be utilized to predict as wells are at a distance from active mining that affected waters have not moved that far.

Page 6-169. Surface Water Resources. Add:

Several of the mine projects propose stream diversions which will provide sediment loading and leached constituents (extent depending on overburden handling). The proposed Martin Lake "D" diversion of Dry Creek (.38 miles) may not contribute significantly to adverse water quality in the Sabine River and Lake Cherokee if overburden is replaced by selective handling as close to existing conditions as possible and remaining wetlands are left intact. Monitoring included in the draft permit (Appendix A to this Final EIS) is proposed to detect changes in water quality in streams tributary to the Sabine River, that may be affected by this project, so that changes in limits can be instituted if necessary.

Page 6-171, paragraph 3, line 13 and Page 6-172, paragraph 1, line 2 contained typographical errors and should read:

Two of the projects (the proposed plant/mine in Harrison County and the Troup project) are in planning stages and are not scheduled to begin in the near future. These projects could become operational within the Martin Lake "D" Area project life (about 30 years).

C. REVISIONS TO CHAPTER 9.0--BIBLIOGRAPHY

The following references were used (in addition to those references listed in the DEIS) during the preparation of the FEIS and should be added to the bibliography in Chapter 9.0:

Fresquez, P. R. and W. C. Lindemann. 1982. Soil and rhizosphere microorganisms in amended coal mine spoils. *Soil Sci. Soc. Am. J.* 46:751-755.

Miller, R. M. 1978. Laboratory research studies on the reestablishment of the below ground ecosystem. In *Argonne Land Reclamation Program Annual Report*. Jul. 1976-Oct. 1977, ANL-LRP-2.

Rusk County Tax Collector. 1983. Personal communication with Dr. Larry Sanburg of Espey, Huston & Associates, Inc.

State Department of Highways and Public Transportation. 1983. Personal communication by Mr. Marcus L. Yancey, Jr. with Mr. Charles Jasper of Espey, Huston & Associates, Inc.

Texas Historical Commission. 1983. Letter dated April 26, 1983 from LaVerne Herrington, Ph.D. addressed to Mr. Dick Whittington, P.E., Regional Administrator, EPA Region 6.

Prickett, T. A. and M. L. Voorhees. 1981. Selected Hand-Held Calculator Codes for the Evaluation of Cumulative Strip-Mining Impacts on Groundwater Resources. Prepared for the Office of Surface Mining, Region V, Denver, Colorado.

D. REVISIONS TO APPENDIX A--SECTION 404(b)(1) ANALYSIS

Revisions to the analysis of impacts from the discharge of dredged and fill materials into Waters of the U.S. according to the Clean Water Act, Section 404(b)(1) guidelines will be made as site-specific plans are provided by the applicant to the Corps of Engineers.

E. REVISIONS TO APPENDIX B--MEMORANDUM OF AGREEMENT

Page B-3, paragraph 2, the address for the National Architectural and Engineering Record has changed since establishment of the Memorandum of Agreement. The new address is:

National Architectural and Engineering Record (NAER) (Chief, Division of Cultural Resources, National Park Service, Rocky Mountain Region, P.O. Box 25287, Denver, Colorado 80225).

Page B-3, paragraph 6, the reference to the Interagency Archaeological Service was incorrect in the Memorandum of Agreement and should read:

Interagency Resources Division (National Park Service, Department of the Interior, Washington, D.C. 20240).

F. REVISIONS TO APPENDIX C--PRELIMINARY NPDES PERMIT

See Appendix A for revisions to Outfall 001 regarding discharges from mine areas; and Outfall 002 regarding discharges from the sewage treatment plant; and Part III regarding special provisions.

TABLE III-I
VEGETATION COMMUNITIES AND LAND USE
MARTIN LAKE "D" AREA PROJECT SITE

Category ¹	Total Project Mine Site		Within Mine Blocks ²	
	Acres	Percent	Acres	Percent
<u>Vegetation Communities:</u>				
Pine Plantations/Managed Pine Forests	1,218	4.9	665	3.7
Regeneration/Cutover Areas	3,795	15.2	2,822	15.8
Upland Pine/Hardwood Forests	3,290	13.2	2,079	11.6
Bottomland Hardwood Forest Communities	1,924	7.7	1,039	5.8
Pasturelands (Improved, Native, Hayfields, Oldfields)	13,135	53.6	10,259	57.3
Croplands	1,229	4.9	865	4.8
Hydric Communities	162	0.6	53	0.3
Other Aquatic Habitats	210	0.8	134	0.7
TOTAL	24,963		17,916	
<u>Land Use:</u>				
Pasture (P)	10,396	41.6	7,915	44.2
Forestry				
Mature (F)	1,949	7.8	1,452	8.1
Transitional (F*)	3,749	15.0	2,804	15.7
Grazingland (G)	1,589	6.4	1,211	6.8
Cropland (C)	1,336	5.4	979	5.5
Undeveloped				
Water (UW)	257	1.0	188	1.0
Forest (UF)	5,327	21.3	3,186	17.8
Water (W)	200	0.8	130	0.7
Commercial-Industrial (C-I)	160	0.6	51	0.3
TOTAL	24,963		17,916	

¹The categories listed for vegetation are based upon different criteria than land use categories. Thus, acreages for categories with similar names are not the same in both tables.

²See Fig. I-2 A and B for location of generalized mine blocks.

TABLE III-2
SUMMARY OF LIGNITE AND ASH CHARACTERISTICS

Component	Average	Std. Dev.	Maximum	Minimum
<u>Lignite</u>				
Total Sulfur	1.34	.56	3.56	.49
Moisture	34.94	5.21	44.40	6.52
Ash	7.09	2.42	18.29	3.16
BTU/Lb.	7,112.16	774.07	8,477.00	2,310.00
Ash Load #/MMBTU	10.18	4.12	31.52	4.74
Sulf. Diox. #/MMBTU	3.85	1.73	10.33	1.33
Thickness in Feet	7.58	3.57	32.96	1.60
<u>Ash</u>				
Silicon Dioxide	34.33	9.22	57.28	4.32
Ferric Oxide	18.88	9.55	45.08	1.22
Aluminum Oxide	18.73	5.52	34.65	4.74
Calcium Oxide	10.65	5.28	23.81	.06
Magnesium Oxide	2.38	1.17	5.81	.39
Sodium Dioxide	.36	.20	1.05	.01
Potassium Oxide	.00	.00	.00	.00
Titanium Oxide	1.17	.43	2.14	.08
Base/Acid Ratio	.64	.29	1.47	.18
Iron/Calcium Ratio	2.76	3.16	19.71	.21

Number of Records with no area # = 0

Wed, Oct. 27, 1982, 2:50 P.M.

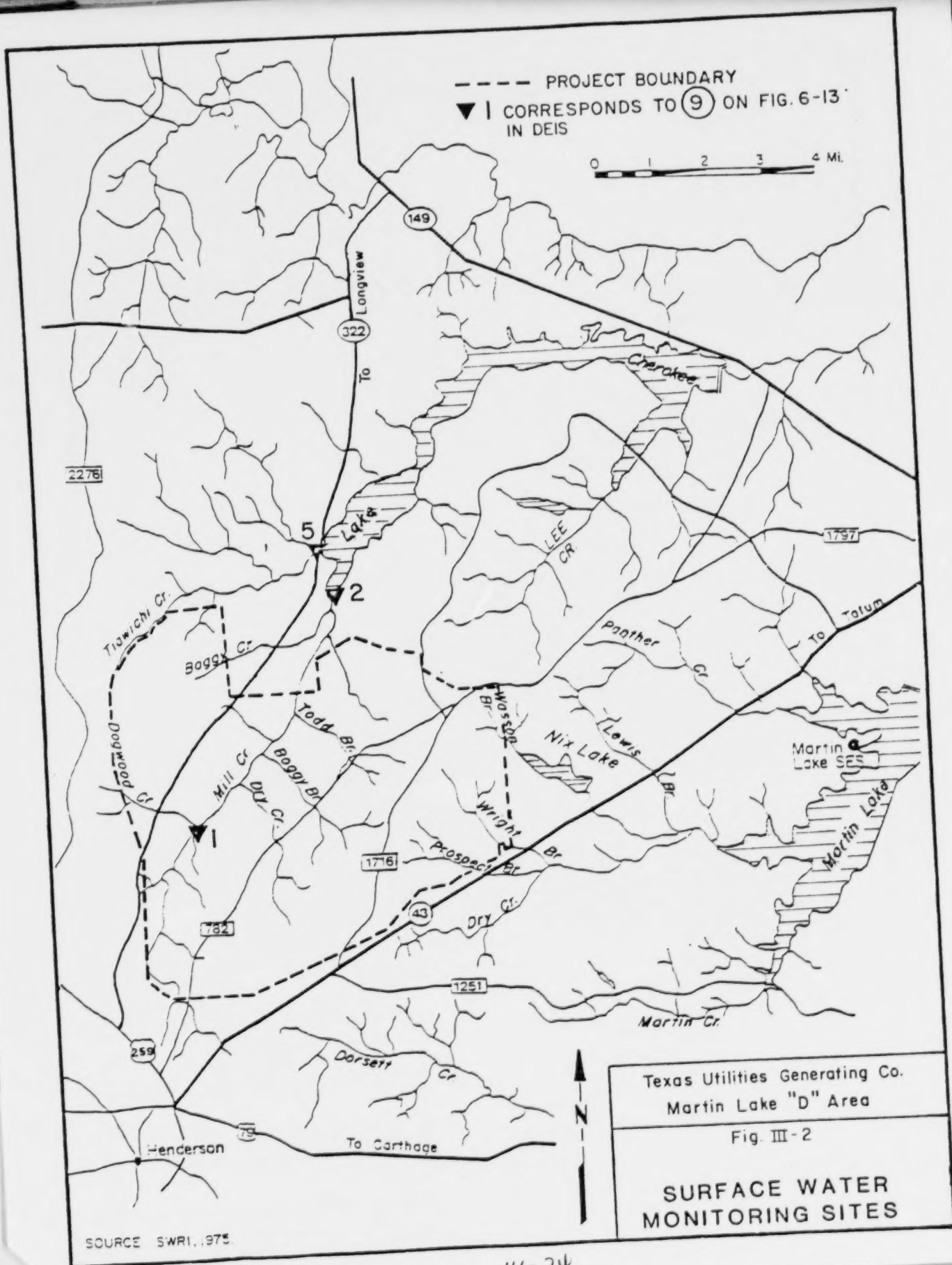
Mill Creek Area - 363

Seam I

73 prox

75 ash



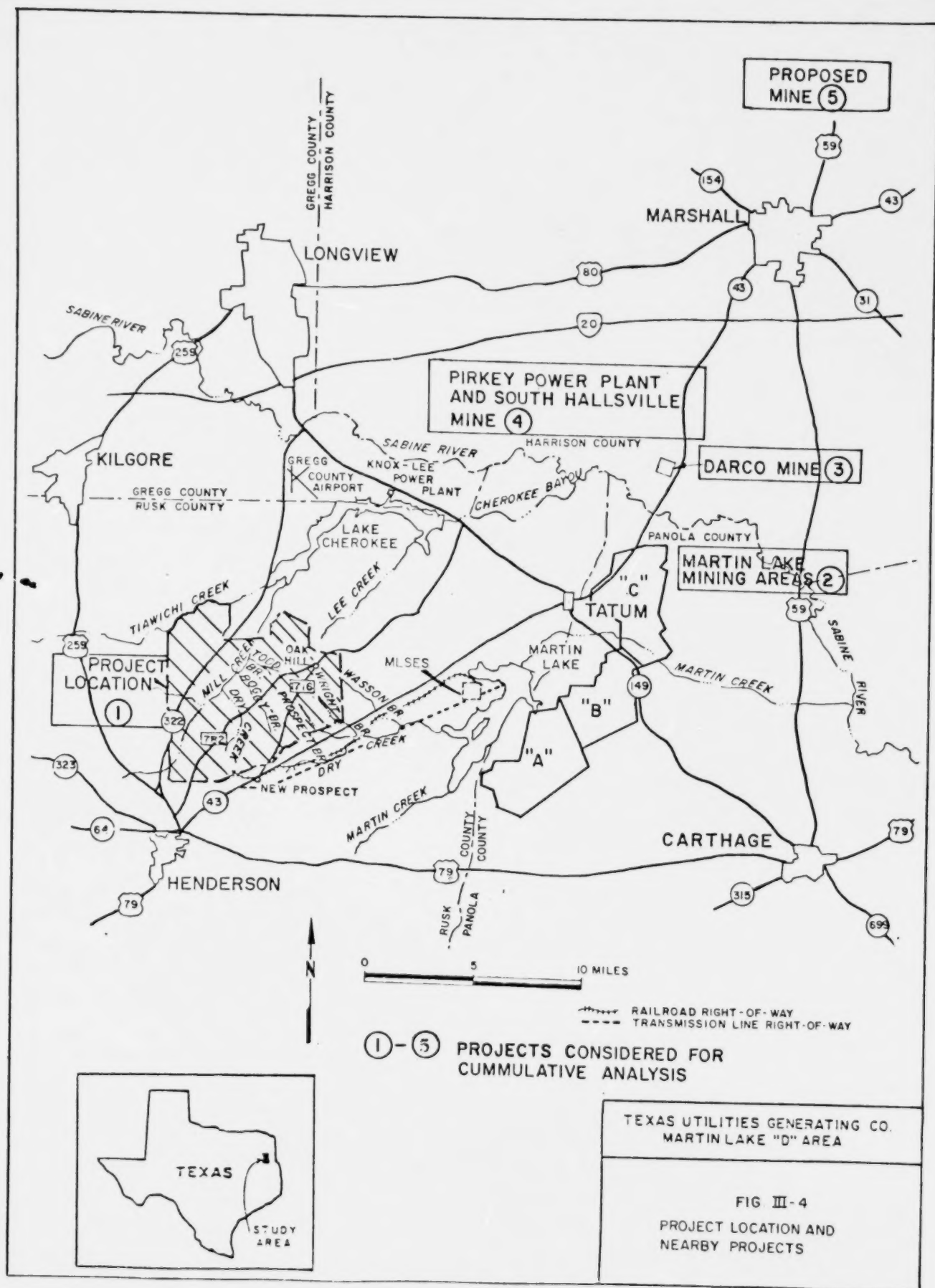




Project	Acres	
	Project Area	Directly Disturbed
(1) Martin Lake "D" Area Mine	25,350	18,400
(2) MLSES and Mining Areas "A", "B", "C"	24,680	23,000
(3) Darco Mine and plant	-	-
(4) Henry W. Pirkey Power Plant/South Hallsville Mine	20,770	11,000
(5) Proposed power plant and mine	-	-
(6) Proposed Troup Project, mine and facility	-	36,000
(7) Dolet Hills Power Plant and mine	30,000	16,200
(8) Castor Bayou Mine	11,200	10,300

TEXAS UTILITIES GENERATING CO.
MARTIN LAKE "D" AREA

FIG. III-3
PROJECTS CONSIDERED IN
CUMULATIVE IMPACT ANALYSIS



PART IV. PREFERRED ALTERNATIVES AND EPA'S PROPOSED ACTION

A. APPLICANT PREFERRED ALTERNATIVE

The applicant preferred alternative is summarized in Part I, B of this document and described in Section 5 of the Draft EIS. TUGCO proposes to mine lignite utilizing a random mix spoil mining and reclamation procedure, with revegetation to 10 to 50 percent woodlands and 50 to 90 percent pasture (using mainly bermuda grass). TUGCO proposes reclamation will be at a level to meet surface mining regulations under authority of the RRC of Texas. Wastewater discharges to streams during mining would be in accordance with new source performance standards for alkaline mine drainage.

B. MOST ENVIRONMENTALLY SOUND ALTERNATIVE

While significant disruption to the natural environment will occur from surface mining regardless of the alternative procedures used, the most environmentally sound alternative would be to proceed according to surface mining regulations with no variances to replacement of earth layers or required buffer zones. Replacement of earth for aquifer reconstruction would be utilized. Additionally, stream diversion would not occur; designated wetlands would be avoided; and all SCS designated prime farmland soils would be replaced; in-kind revegetation would be utilized. Wastewater discharge limits would be based on acid mine drainage category new source performance standards.

C. EPA PROPOSED ACTION

With reservations due to the lack of an approved mining/reclamation plan, EPA proposes to issue a permit for the project, with modifications, conditions, and provisions as follows.

Mine wastewater discharge limitations are according to acid mine drainage new source performance standards with effluent limits on pH, total suspended solids, iron and manganese. Discharges during and immediately following rainfall events of magnitude up to the 10-year, 24 hour precipitation event could qualify for effluent limits on pH and settleable solids only. Discharges within 24 hours of a rainfall greater than the 10 year, 24 hour event could qualify for only pH limitations. However, the operator must prove that discharge during or following precipitation was caused by the applicable rainfall event to qualify for the less stringent limits. Mining discharges from reclamation areas during the bonding period would have limits on pH and settleable solids. The reference for the above standards is 40 Code of Federal Regulations, Part 434.35. See the draft permit in Appendix A, Parts I and III for the limits.

Sanitary waste discharge limitations would be according to the secondary level treatment effluent limits for total suspended solids, pH, and biochemical oxygen demand. (See Appendix A, Part I of draft permit).

TUGCO would provide instream water quality monitoring at sites on Mill Creek and Tiawichi Creek. Sampling, analysis and reporting for pH, mercury, phenols, ammonia, alkalinity, total dissolved solids, total suspended solids, and turbidity would occur quarterly.

No discharge into any Corps of Engineers designated wetlands would be allowed unless Clean Water Act, Section 404 authorization is obtained from the COE for each discharge, based on site specific plans. This includes any mining or construction activity proposed as well as transmission line or pipeline relocations.

Stipulations of the Memorandum of Agreement on cultural resources (Appendix B of draft EIS) must be complied with for consideration of historic and archaeological resources before earth disturbance in a permit area and for instances of discoveries during earth disturbance.

APPENDIX A.
DRAFT NPDES PERMIT FOR THE MARTIN LAKE "D"
AREA LIGNITE SURFACE MINE

A-i

DRAET

Permit No. TX0091120
Application No. TX0091120

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et. seq; the "Act"),

Texas Utilities Generating Company
2001 Bryan Tower
Dallas, Texas 75201

is authorized to discharge from a facility located at Martin Lake Mining Area D, near Henderson, Rusk County, Texas

to receiving waters named the Sabine River via Mill, Martin and Tiawichi Creeks

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof.

This permit shall become effective on

This permit and the authorization to discharge shall expire at midnight,

Signed this day of

Myron O. Knudson, P.E.
Director, Water Management Division (6W)

PART I

Page 2 of 19
Permit No. TX0091120

PART I
REQUIREMENTS FOR NPDES PERMITS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - Outfall 001

During the period beginning the effective date and lasting through the expiration date

the permittee is authorized to discharge from Outfall(s) serial number(s) 001, intermittent discharge from various retention ponds**.

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			
	<u>kg/day(lbs/day)</u>		<u>Other Units (Specify)</u>	
	Daily Avg	Daily Max	Daily Avg	Daily Max
Flow-m ³ /Day(MGD)	N/A	N/A	*	*
Total Suspended Solids	N/A	N/A	35.0 mg/l	70.0 mg/l
Iron, Total	N/A	N/A	3.0 mg/l	6.0 mg/l
Manganese, Total	N/A	N/A	2.0 mg/l	4.0 mg/l

<u>Effluent Characteristic</u>	<u>Monitoring Requirements</u>	
	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow-m ³ /Day(MGD)	One/day	Estimate ***
Total Suspended Solids	One/day ****	Grab
Iron, Total	One/day ****	Grab
Manganses, Total	One/day ****	Grab

* Report

** See Part III, Paragraph B

*** See Part III, Paragraph E

**** When Discharge occurs

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored one/day**** by grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): At the flow measuring device prior to discharge to a tributary of the Sabine River.

PART I

Page 3 of 19
Permit No. TX0091120

PART I
REQUIREMENTS FOR NPDES PERMITS

SECTION A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - Outfall 002

During the period beginning the effective date and lasting through expiration date

the permittee is authorized to discharge from Outfall(s) serial number(s) 002, discharge from a sewage treatment plant.

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			
	kg/day(lbs/day)		Other Units (Specify)	
	Daily Avg	Daily Max	Daily Avg	Daily Max
Flow-m ³ /Day(MGD)	N/A	N/A	*	*
Total Suspended Solids	N/A	N/A	30 mg/l	45 mg/l
Biochemical Oxygen Demand (5-day)	N/A	N/A	30 mg/l	45 mg/l

<u>Effluent Characteristic</u>	<u>Monitoring Requirements</u>	
	Measurement Frequency	Sample Type
Flow-m ³ /Day(MGD)	1/week	Grab
Total Suspended Solids	1/week	Grab
Biochemical Oxygen Demand (5-day)	1/week	Grab

* Report

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week by grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Prior to discharge from the treatment plant to Dry Creek, tributary to Mill Creek.

PART I

Page 4 of 19
Permit No. TX0091120

SECTION B. SCHEDULE OF COMPLIANCE

The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:

NONE

PART II
STANDARD CONDITIONS FOR NPDES PERMITSSECTION A. GENERAL CONDITIONS1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit non-compliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

2. Penalties for Violations of Permit Conditions

The Clean Water Act provides that any person who violates a permit condition implementing sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing sections 301, 302, 306, 307, or 308 of the Clean Water Act is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than 1 year, or both.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

- a. Violation of any terms or conditions of this permit;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

5. Toxic Pollutants

Notwithstanding paragraph A-4, above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the permittee so notified.

The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

6. Civil and Criminal Liability

Except as provided in permit conditions on "Bypassing" Section B, Paragraph B-3 and "Upsets" Section B, Paragraph B-4, nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

7. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

8. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

9. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

10. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilitiesa. Definitions

- (1) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs c and d of this section.

c. Notice

- (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

PART II

Page 8 of 19
Permit No. TX0091120

- (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section D, Paragraph D-6 (24-hour notice).

d. Prohibition of bypass.

- (1) Bypass is prohibited and the Director may take enforcement action against a permittee for bypass, unless:
 - (a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - (c) The permittee submitted notices as required under paragraph c of this section.
- (2) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph d(1) of this section.

4. Upset Conditions

- a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph c of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
- c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (1) An upset occurred and that the permittee can identify the specific cause(s) of the upset;
- (2) The permitted facility was at the time being properly operated; and
- (3) The permittee submitted notice of the upset as required in Section D, Paragraph D-6.
- (4) The permittee complied with any remedial measures required under Section A, Paragraph A-3.

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

SECTION C. MONITORING AND RECORDS1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and, unless otherwise specified, before the effluent joins or is diluted by any other wastestream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than + 10% from true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration and operation of acceptable flow measurement devices can be obtained from the following references:

- a. "A Guide to Methods and Standards for the Measurement of Water Flow", U. S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 97 pp. (Available from the U. S. Government Printing Office, Washington, D. C. 20402. Order by SD catalog No. C13.10:421).
- b. "Water Measurement Manual", U. S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U. S. Government Printing Office, Washington, D. C. 20402. Order by Catalog No. I27.19/2:W29/2, Stock No. S/N 24003-0027).
- c. "Flow Measurement in Open Channels and Closed Conduits, U. S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Service (NTIS), Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST).
- d. "NPDES Compliance Sampling Manual", U. S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp. (Available from the General Services Administration [8FFS], Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver, CO 80225).

PART II

Page 11 of 19
Permit No. TX0091120

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

4. Penalties for Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

5. Reporting of Monitoring Results

Monitoring results must be reported on a Discharge Monitoring Report (DMR) form (EPA No. 3320-1). Monitoring results obtained during the previous 3 months shall be summarized for each month and reported on a DMR form postmarked no later than the 28th day of the month following the completed reporting period. The first report is due _____. Duplicate copies of DMR's signed and certified as required by Section D, Paragraph D-11, and all other reports required by Section D, Reporting Requirements, shall be submitted to the Regional Administrator and the State at the following addresses:

Myron O. Knudson, P.E., Director
Water Management Division (6W)
U.S. Environmental Protection Agency
Region VI
First International Building
1201 Elm Street
Dallas, Texas 75270

Director, Surface Mining & Reclamation
Texas Railroad Commission
P.O. Drawer 12967, Capitol Station
Austin, Texas 78711

6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated.

7. Averaging of Measurements

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

8. Retention of Records

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

9. Record Contents

Records of monitoring information shall include:

- a. The date, exact place, time and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

10. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
- d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.

2. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers

This permit is nontransferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

4. Monitoring Reports

Monitoring results shall be reported at the intervals and in the form specified in Section C, Paragraph C-5 (Monitoring).

5. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

6. Twenty-Four Hour Reporting

The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Director may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

PART II

Page 14 of 19
Permit No. TX0091120

The following shall be included as information which must be reported within 24 hours:

- a. Any unanticipated bypass which exceeds any effluent limitation in the permit.
- b. Any upset which exceeds any effluent limitation in the permit.
- c. Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in Part III of the permit to be reported within 24 hours.

7. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under Section D, Paragraphs D-1, D-4, D-5, and D-6 at the time monitoring reports are submitted. The reports shall contain the information listed in Paragraph D-6.

8. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the "notification levels" described in 40 CFR 122.61.
- b. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.

9. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

10. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application should be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

PART II

Page 15 of 19
Permit No. TX0091120

11. Signatory Requirements

All applications, reports or information submitted to the Director shall be signed and certified.

a. All permit applications shall be signed as follows:

- (1) For a corporation: by a principal executive officer of at least the level of vice-president;
- (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
- (3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official.

b. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- (1) The authorization is made in writing by a person described above.
- (2) The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
- (3) Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

12. Availability of Reports

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency

PART II

Page 16 of 19
Permit No. TX0091120

and the Regional Administrator. As required by the Act, permit applications, permits and effluent data shall not be considered confidential.

13. Penalties for Falsification of Reports

The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

PART III

Page 17 of 19
Permit No. TX0091120

PART III
OTHER CONDITIONS

A. The "daily average" concentration means the arithmetic average (weighted by flow value) of all the daily determinations of concentration made during a calendar month. Daily determinations of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the daily determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during that calendar day.

The "daily maximum" concentration means the daily determination of concentration for any calendar day.

B. The sampling points (sedimentation ponds) shall be numbered and reported as 101 through 991 as developed within the areas identified in the Mining Sequence Map, Figure 1-2 of the consolidated application.

C. Locations may be revised by the permittee if it becomes necessary to eliminate or establish new holding ponds. For any revision the permittee shall submit appropriate maps redesignating the holding pond location.

Any revised pond or outfall location should be consistent with and fall within the mining area boundary as defined in the applicant's State Mining Plan.

Any revised pond or outfall location shall be limited to discharging to the same receiving body of water.

D. Drainage which is not from an active mining area shall not be required to meet the limitations set forth in Part I-A of this permit as long as such drainage is not commingled with untreated mine drainage which is subject to the limitations in Part I-A of this permit.

E. Methods of flow estimating shall be by the "California Pipe Method" as described in section 7.4.2.2. of the Handbook for Monitoring Industrial Wastewater, August 1973, U.S. Environmental Protection Agency, Technology Transfer.

PART III

Page 18 of 19
Permit No. TX0091120

F. Effluent Limitations for Precipitation events

(a) Any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or series of storms or snowmelt of equivalent volume) may comply with the following limitations instead of the otherwise applicable limitations:

Effluent Limitations During Precipitation

Pollutant or Pollutant Property	Maximum for any one day	Average of daily values for thirty consecutive days
Settleable Solids	0.5 ml/l	N/A
pH	Within the range of 6.0 to 9.0 at all times	

(b) Any discharge or increase in volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour event (or series of storms or snowmelt of equivalent volume) may comply with the following limitations instead of the otherwise applicable limitations:

Effluent limitations During Precipitation

Pollutant or Pollutant Property	Maximum for any one day	Average of daily values for thirty consecutive days
pH	Within the range of 6.0 to 9.0 at all times	

(c) The operator shall have the burden of proof that the discharge or increase in discharge was caused by the applicable precipitation event described in subsections (a) and (b).

G. 10-year 24-hour Precipitation Event

The term "10-year, 24-hour precipitation event" means the maximum 24-hour precipitation event with a probable recurrence interval of once in ten years as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.," May 1961, or equivalent regional or rainfall probability information developed therefrom.

H. Effluent Limitations for Reclamation Areas

The following standards apply to discharges from reclamation areas until SMCRA bond release

PART III

Page 19 of 19
Permit No. TX0091120

Effluent Limitations

Pollutant or Pollutant Property	Maximum for any one day	Average of daily values for thirty consecutive days
Settleable Solids	0.5 ml/l	N/A
pH	Within the range 6.0 to 9.0 at all times	

I. Determination of Settleable Solids

The following procedure shall be used to determine settleable solids:

Fill an Imhoff cone to the one-liter mark with a thoroughly mixed sample. Allow to settle undisturbed for 45 minutes. Gently stir along the inside surface of the cone with a stirring rod. Allow to settle undisturbed for 15 minutes longer. Record the volume of settled material in the cone as milliliters per liter. Where a separation of settleable and floating materials occurs, do not include the floating material in the reading.

The method detection limit for measuring settleable solids shall be 0.4 ml/l.

J. The Memorandum of Agreement executed by EPA, the Advisory Council on Historic Preservation, and the Texas State Historic Preservation Officer for the coal mining operation which is the subject of this permit is hereby incorporated by reference and expressly made a part of this permit. The permittee shall comply with the stipulations of such Memorandum of Agreement.

K. There shall be no discharge of dredge and fill material into wetlands as designated by the U.S. Army Corps of Engineers unless TUGCO obtains a Clean Water Act, Section 404 authorization from the Corps of Engineers for each such discharge, based on site specific plans.

L. In-stream sampling, analysis and reporting shall be provided for phenols, ammonia (as N), pH, alkalinity, turbidity, total suspended solids, total dissolved solids and mercury on a once/3 month basis at Stream Sampling Stations TUSI 1, 2 and 5, as used in the Sabine River Authority's 1977-1980 Water Quality Monitoring Program. Grab samples shall be collected both prior to, and during, periods when discharges from the mine area are actually occurring.

APPENDIX B.
ADDITIONAL INFORMATION

B-i

APPENDIX B--TABLE OF CONTENTS

Item		Page
1	Letters Concerning Early Construction Requests	B-1
2.	TUGCO Violations Submitted to RRC	B-10
3.	TACB Letter Exempting Martin Lake "D" Area from PSD	B-14
4.	Overburden Core Analyses - 5 Cores	B-17
5.	Agreement for Railroad Crossings	B-29

I. Letters Concerning Early Construction Requests

TEXAS UTILITIES SERVICES INC.

2001 BRYAN TOWER - DALLAS, TEXAS 75201

June 11, 1982

Mr. Clinton Spotts
Regional EIS Coordinator
U.S. Environmental Protection Agency
1201 Elm Street
Dallas, Texas 75270

Martin Lake Mining Area "D"
Environmental Impact Statement
Railroad Start of Construction

Dear Mr. Spotts:

The purpose of this letter is to seek concurrence for start of construction of the railroad that will transport lignite from our proposed Martin Lake Area "D" lignite mine to the existing Martin Lake Steam Electric Station. An environmental impact statement is currently under preparation to obtain an NPDES permit for the mine. The EIS preparation schedule calls for review and effective permit date of March 22, 1983. Construction of the mine will begin immediately upon receipt of the NPDES period in order to maintain a reliable fuel supply required for continued operation of the existing three generating units at Martin Lake Steam Electric Station.

Start of construction for the railroad will be required earlier than for the mine so that the railroad can be in service by the time the mine begins producing lignite. To meet this schedule requirement, construction of the railroad must begin with preliminary clearing on September 1, 1982.

Based upon our review of the applicable regulations and definitions pertaining to NPDES permit requirements, we believe that the railroad is an off-site transportation facility that is separate from the NPDES new source mine. The railroad has no water discharges and is not included in the definitions of "coal mine" or "active mining area" in the EPA Effluent Guidelines for Coal Mining (40 CFR 434). Since the railroad is a separate, off-site facility that does not require an NPDES permit, we believe the on-site construction commencement requirements of 122.66(c)(4)(i) do not apply to the railroad start of construction.

We recognize that the NEPA regulations require the EIS to address all the environmental impacts resulting from construction of the mine including secondary impacts from construction of the railroad. The impacts of the railroad have been addressed in the Preliminary Draft EIS and no significant or irreversible adverse environmental impacts have been identified. The following factors can be used in justifying no significant or irreversible impact:

Mr. Clinton Spotts
U.S. EPA
June 11, 1982
Page 2.

1. The selected rail route passes through a rural, low populated area.
2. No endangered species or habitat will be affected.
3. Overpasses will be constructed at all public road crossings so that there will be no effect on automobile traffic.
4. There will be no adverse effect on archaeological or historical National Register or eligible properties. A plan has been developed and will be implemented to protect and gather all historic information from the one potential National Register eligible site located on the railroad right-of-way.
5. The Corps of Engineers has reviewed the proposed rail route and determined that the rail crossings occur above the headwaters of area streams and are therefore authorized by a nationwide permit. Crossings will meet the requirements of 33 CFR 323.4-2(b).

In summary, we request that EPA concur in the start of construction based on either (1) the railroad is a separate off-site transportation facility from the NPDES permitted mine or (2) a determination that start of construction of the railroad will not cause a significant irreversible adverse impact.

If there are any questions about this request or if any additional information is required, please contact me or Mr. Dick Robertson.

Very truly yours,


H. B. Coffman

JRR:j1

Mr. Howard B. Coffman
Texas Utilities Services, Inc.
2001 Bryan Tower
Dallas, Texas 75201

Dear Mr. Coffman:

This letter is in response to your request for concurrence on early construction of the railroad to be used to transport lignite from the proposed Martin Lake "D" mine north of Henderson, Texas to the Martin Lake Steam Electric Station. We have determined that the area proposed for location of the railroad is part of the new source project site, and the regulations, 40 CFR Part 122.6 (c)(4)(1), do apply.

Based on review of all the information submitted, we offer our approval to proceed with the railroad construction provided that the following conditions are met:

1. Clearance is provided from the U.S. Army Corps of Engineers, Fort Worth District, regarding construction in wetlands;
2. Measures are developed for minimizing of effects on the prime farmland soils so that no irreversible impact will occur on these;
3. The mitigation plan for protecting the significance of the Walling Cabin, as related to the archeological survey of the site and recordation and relocation of the cabin property, is completed before any construction begins.

We reserve the right to withdraw this authorization should further information indicate the conditions will not be met or that construction work will cause significant environmental impact.

Reproduced from
best available copy.



In the event the final EIS reveals that your project cannot be undertaken as presently planned, we are informing you that any construction activities commenced on the proposed railroad corridor are at your own risk. If you have any questions, please contact Clinton Spotts at (214) 767-2716.

Sincerely yours,

/s/ Frances E. Phillips for

Dick Whittington, P.E.
Regional Administrator



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
INTERFIRST TWO BUILDING, 1201 ELM STREET
DALLAS, TEXAS 75270

August 1, 1983

Mr. L. F. Fikar
Texas Utilities Generating Co.
2001 Bryan Tower
Dallas, Texas 75201-3050

Dear Mr. Fikar:

We have reviewed your June 8, 1983, request for approval to begin construction at the site of the loading station and dragline erection area associated with the Martin Lake "D" area lignite mine project. The recent application made by TUGCO to the Railroad Commission of Texas for construction at this particular site was obtained and reviewed in addition to information supplied to us for the EIS.

Based on our review of the information available, we offer our approval to proceed with construction at the designated site in accordance with variance procedures in 40 CFR 122.66(c)(4)(i), provided the following conditions are met:

1. Site specific measures are carried out to minimize effects on the prime farmland soils so that no irreversible impact will occur to them. The measures are to include removal of a minimum of the top four inches of topsoil in any area that is to be cut or covered with fill and placement of that soil at one or more locations in the loading station area to be available for future use. Exposed areas should be revegetated to control erosion immediately as construction activities in an area are completed.
2. The appropriate stipulations of the Memorandum of Agreement for protection of cultural resources between EPA, the Texas State Historic Preservation Officer and the Advisory Council on Historic Preservation are complied with to ensure protection of archeological or historic properties that may be discovered during earth disturbance.

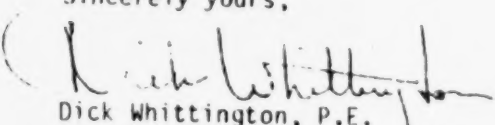
We reserve the right to withdraw this authorization should further information indicate that the conditions will not be met or that construction will cause other significant environmental impact. In such an event, TUGCO shall immediately cease construction activities and take measures to restore the affected environment.

You should be aware that although this construction may include construction of a sedimentation pond(s), you are not authorized to discharge from a pond to any surface water without a final NPDES permit.

EPA's approval for this limited construction does not obligate EPA in any way regarding the final NPDES decision for the Martin Lake D Area mine project. Should the NEPA review underway by EPA, Region 6, result in a determination that the NPDES permit is denied or that the proposed facility should not be constructed at the proposed location, TUGCO shall return the area disturbed to its approximate original contour and revegetate the area to the satisfaction of EPA.

We ask that you keep us apprised of your activities relative to this authorization. If you have any questions, please contact Clinton Spotts at 767-2716.

Sincerely yours,


Dick Whittington, P.E.
Regional Administrator (8A)

cc: Howard Coffman

TEXAS UTILITIES SERVICES INC.

SOURCE: ENR 10/16/83 PAGE 10

June 8, 1983

RECEIVED

JUN 9 1983

6 ES

Mr. Clinton Spotts
Regional EIS Coordinator
U.S. Environmental Protection Agency
1201 Elm Street
Dallas, Texas 75270

Martin Lake Mining Area "D"
Environmental Impact Statement
Loading Station Start of Construction

Dear Mr. Spotts:

With this letter we are requesting approval to begin initial construction activities at the site of the loading station and dragline erection area for our proposed Martin Lake Mining Area "D" project. We seek this approval based on the provisions of 40 CFR 122.66(4)(i) which allow certain construction activities prior to obtaining a final NPDES permit when the Administrator determines that the construction will not cause significant or irreversible environmental impact.

We believe this determination can be made based on the limited acreage involved for the proposed construction as well as the data and analysis of impacts that have already been evaluated and commented on by agencies and the public in the ongoing preparation of the Environmental Impact Statement for the project.

The proposed construction would be limited to Company owned property within the boundaries of the 428 acre site designated as the loading station and dragline erection area. Proposed facilities as described in the DEIS and Railroad Commission Permit Application would only occupy 140 acres within the larger boundary. The environmental review of this area has indicated there are no wetlands, sensitive areas, national register archaeological sites or endangered species in the area. No mining or handling of lignite would be conducted before obtaining the NPDES permit. No work would begin until authorization is provided by the Railroad Commission.

The projected date for completion of the final EIS and issuance of the NPDES permit is still several months away. We have delayed the start of the proposed work for several months and additional delay would jeopardize the entire project schedule and projected fuel supply for the Martin Lake Power Plant. We seek to begin by July 1, 1983. This would allow us to have an area and facilities prepared to receive dragline parts scheduled to arrive in December of this year. There would be an environmental benefit in starting early enough in the year to allow growth of vegetation on some of the disturbed areas prior to the winter season.

Mr. Clinton Spotts
U.S. EPA
June 8, 1983
Page 2.

We have previously submitted the drawings, maps and descriptions of the loading station area and facilities.

If you need additional information, or if there are any questions, please call me or Mr. Dick Robertson.

Very truly yours,


H. B. Coffman

JRR:j1

2. TUGCO Violations Submitted to RRC

DATE: August 6, 1979

AUTHORITY: Texas Railroad Commission, Surface Mining Division

DESCRIPTION OF VIOLATION: Failure to meet water quality standards and effluent limitations at pond B-1-D.

DESCRIPTION OF ADMINISTRATIVE OR JUDICIAL PROCEEDINGS:

None

STATUS OF PROCEEDINGS: N/A

ABATEMENT ACTION TAKEN BY THE APPLICANT: B-1-D sediment pond enlarged to meet the 10-year, 24-hour rainfall event.

DATE: August 6, 1979

AUTHORITY: Texas Railroad Commission, Surface Mining Division

DESCRIPTION OF VIOLATION: Failure to use best technology on "C" haul road adding excessive suspended solids to Pin Oak and Prairie Creeks.

DESCRIPTION OF ADMINISTRATIVE OR JUDICIAL PROCEEDINGS:

None

STATUS OF PROCEEDINGS: N/A

ABATEMENT ACTION TAKEN BY THE APPLICANT: Hay bale and rock check dams installed in roadside ditches. Reroute water (where possible) through sediment ponds.

DATE: October 16, 1979

AUTHORITY: Office of Surface Mining Reclamation Enforcement

DESCRIPTION OF VIOLATION: Discharge from disturbed area failed to meet minimum effluent limitations.

DESCRIPTION OF ADMINISTRATIVE OR JUDICIAL PROCEEDINGS:

None

STATUS OF PROCEEDINGS: Completed.

ABATEMENT ACTION TAKEN BY THE APPLICANT: Treatment system installed.

DATE: October 16, 1979

AUTHORITY: Office of Surface Mining Reclamation Enforcement

DESCRIPTION OF VIOLATION: Exceeding discharge limitations.

DESCRIPTION OF ADMINISTRATIVE OR JUDICIAL PROCEEDINGS:

\$2300 assessment proposed. No penalty following assessment conference.

STATUS OF PROCEEDINGS: Assessment conference scheduled.

ABATEMENT ACTION TAKEN BY THE APPLICANT: Treatment pond B-5 installed to
treat water from B-2 and B-3 sediment pond.

DATE: November 4, 1979

AUTHORITY: Texas Railroad Commission, Surface Mining Division

DESCRIPTION OF VIOLATION: Failure to meet water quality standards and
effluent limitations at pond B-4.

DESCRIPTION OF ADMINISTRATIVE OR JUDICIAL PROCEEDINGS:

None

STATUS OF PROCEEDINGS: Not applicable.

ABATEMENT ACTION TAKEN BY THE APPLICANT: Water treatment system installed.

DATE: May 29, 1980

AUTHORITY: Texas Railroad Commission

DESCRIPTION OF VIOLATION: Drainage from a new scraper pit spoil is leaving
the permit area without passing through a sediment pond.

DESCRIPTION OF ADMINISTRATIVE OR JUDICIAL PROCEEDINGS:

None

STATUS OF PROCEEDINGS: Not applicable.

ABATEMENT ACTION TAKEN BY THE APPLICANT: Drainage control facilities
constructed.

DATE: August 26, 1980

AUTHORITY: Texas Railroad Commission

DESCRIPTION OF VIOLATION: Excavation within 100 feet of a pipeline during exploration activity.

DESCRIPTION OF ADMINISTRATIVE OR JUDICIAL PROCEEDINGS:

None.

STATUS OF PROCEEDINGS: Not applicable.

ABATEMENT ACTION TAKEN BY THE APPLICANT: Exploration activities within 100 feet of pipeline were discontinued.

DATE: July 14, 1981

AUTHORITY: Texas Railroad Commission, Surface Mining Division

DESCRIPTION OF VIOLATION: Failure to cover acid-forming materials.

DESCRIPTION OF ADMINISTRATIVE OR JUDICIAL PROCEEDINGS:

None

STATUS OF PROCEEDINGS: N/A

ABATEMENT ACTION TAKEN BY THE APPLICANT: Chemical treatment.

3. TACB Letter Exempting Martin Lake "D" Area from PSD

TEXAS AIR CONTROL BOARD

6330 HWY. 290 EAST
AUSTIN, TEXAS 78723
512/451-5711

JOHN L. BLAIR
Chairman
CHARLES R. JAYNES
Vice Chairman

BILL STEWART, P. E.
Executive Director



VITTORIO K. ARGENTO, P. E.
BOB G. BAILEY
FRED HARTMAN
D. JACK KILIAN, M. D.
OTTO R. KUNZE, Ph. D., P. E.
FRANK H. LEWIS
R. HAL MOORMAN

March 8, 1983

RECEIVED

MAR 9 1983

JUSI

Mr. L. F. Fikar
Vice President
TEXAS UTILITIES SERVICES, INCORPORATED
2001 Bryan Tower
Dallas, Texas 75201

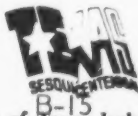
Re: Permit Exemption
Permit Application No. C-9243
Lignite Train Loading Facility
Henderson, Rusk County

Dear Mr. Fikar:

This is in response to your permit application, Form PI-1, concerning the proposed construction of a lignite train loading facility. We understand that fugitive particulate matter emissions from this facility are estimated to be 18.2 tons per year.

Pursuant to Section 3.27(a) of the Texas Clean Air Act, I have determined to exempt your proposed facility from the permit procedures of this Agency because it will not make a significant contribution of air contaminants to the atmosphere if constructed and operated as described in your application. You are reminded that regardless of whether a construction permit is required, this facility must be in compliance with all Rules and Regulations of the Texas Air Control Board at all times.

The issuance of this exemption is contingent upon the condition that this facility shall comply with all requirements of Environmental Protection Agency Regulations on Standards of Performance for New Stationary Sources promulgated for coal preparation plants in Title 40 Code of Federal Regulations Part 60 (40 CFR 60), Subparts A and Y.



Celebrating 150 Years of Texas Independence 1836 - 1986

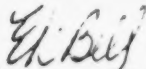
Mr. L. F. Fikar

-2-

March 8, 1983

Thank you for providing the information necessary for our evaluation of your proposal. If you have further questions concerning this exemption, please contact Mr. James E. Crocker of our Permits Division.

Sincerely,


Bill Stewart, P.E.
Executive Director

cc: Mr. Richard Leard, P.E., Regional Supervisor, Tyler

4. Overburden Core Analyses - 5 Cores

CORE LABORATORIES, INC.
ANALYTICAL REPORT

13 MAY 81

DISTRIBUTION OF FINAL REPORTS

COPIES SENT TO:

ESPEY, HUSTON AND ASSOCIATES, INC.
P.O. BOX 519
AUSTIN, TEXAS 78704
ATTN: MR. RAY RISNER

TEXAS UTILITIES GENERATING COMPANY
P.O. BOX 948
FAIRFIELD, TEXAS 75840
ATTN: MR. LEGETT GARRETT

CLIENT I.D.:

M81002

P.O. NO. C90-0533

OVERBURDEN PROJECT ANALYSIS FOR TEXAS UTILITIES GENERATING COMPANY
MILL CREEK PROJECT

HOLE 1128	EHA 5	0' - 64.1'
HOLE 562	EHA 2	0' - 87.2'
HOLE 1009	EHA 1	0' - 131.4'
HOLE 972	EHA 3	0' - 82.2'
HOLE 964	EHA 4	0' - 122.5'

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT
NS1002

COMPOSITE LIST OF SAMPLES

1	HOLE 1128	EHA 5-1	0'-11.8'
2	HOLE 1128	EHA 5-2	11.8'-28.0'
3	HOLE 1128	EHA 5-3	28.0'-40.0'
4	HOLE 1128	EHA 5-4	40.0'-47.0'
5	HOLE 1128	EHA 5-5	49.7'-51.0'
6	HOLE 1128	EHA 5-6	51.0'-54.3'
7	HOLE 1128	EHA 5-7	54.3'-64.1'
8	HOLE 562	EHA 2-1	0'-10.0'
9	HOLE 562	EHA 2-2	10.0'-14.5'
10	HOLE 562	EHA 2-3	14.5'-17.5'
11	HOLE 562	EHA 2-4	17.5'-21.0'
12	HOLE 562	EHA 2-5	21.0'-24.0'
13	HOLE 562	EHA 2-6	24.0'-34.5'
14	HOLE 562	EHA 2-7	34.5'-45.5'
15	HOLE 562	EHA 2-8	50.0'-63.0'
16	HOLE 562	EHA 2-9	63.0'-64.6'
17	HOLE 562	EHA 2-10	74.0'-75.3'
18	HOLE 562	EHA 2-11	75.3'-87.2'
19	HOLE 1009	EHA 1-1	0'-8.0'
20	HOLE 1009	EHA 1-2	8.0'-16.0'
21	HOLE 1009	EHA 1-3	16.0'-29.2'
22	HOLE 1009	EHA 1-4	29.2'-33.5'
23	HOLE 1009	EHA 1-5	33.5'-41.0'
24	HOLE 1009	EHA 1-6	41.0'-48.0'
25	HOLE 1009	EHA 1-7	51.4'-59.7'
26	HOLE 1009	EHA 1-8	59.7'-65.7'
27	HOLE 1009	EHA 1-9	65.7'-78.0'
28	HOLE 1009	EHA 1-10	78.0'-92.0'
29	HOLE 1009	EHA 1-11	92.0'-107.2'
30	HOLE 1009	EHA 1-12	107.2'-109.2'
31	HOLE 1009	EHA 1-13	119.6'-121.5'
32	HOLE 1009	EHA 1-14	121.5'-131.4'
33	HOLE 972	EHA 3-1	0'-7.6'
34	HOLE 972	EHA 3-2	7.6'-10.1'
35	HOLE 972	EHA 3-3	10.1'-11.2'

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT
NS1002

COMPOSITE LIST OF SAMPLES (CONT.)

36	HOLE 972	EHA 3-4	11.2'-14.2'
37	HOLE 972	EHA 3-5	15.2'-20.7'
38	HOLE 972	EHA 3-6	20.7'-36.1'
39	HOLE 972	EHA 3-7	36.1'-52.3'
40	HOLE 972	EHA 3-8	54.2'-55.7'
41	HOLE 972	EHA 3-9	55.7'-59.0'
42	HOLE 972	EHA 3-10	59.0'-61.4'
43	HOLE 972	EHA 3-11	68.6'-69.5'
44	HOLE 972	EHA 3-12	69.5'-75.0'
45	HOLE 972	EHA 3-13	75.0'-82.2'
46	HOLE 964	EHA 4-1	0'-10.0'
47	HOLE 964	EHA 4-2	10.0'-22.0'
48	HOLE 964	EHA 4-3	22.0'-35.4'
49	HOLE 964	EHA 4-4	35.4'-47.8'
50	HOLE 964	EHA 4-5	47.8'-54.4'
51	HOLE 964	EHA 4-6	56.6'-60.3'
52	HOLE 964	EHA 4-7	60.3'-75.1'
53	HOLE 964	EHA 4-8	75.1'-90.8'
54	HOLE 964	EHA 4-9	90.8'-104.7'
55	HOLE 964	EHA 4-10	104.7'-105.6'
56	HOLE 964	EHA 4-11	112.1'-114.0'
57	HOLE 964	EHA 4-12	114.0'-122.5'
S3			
S4			
L1	HOLE 1128	L1	47.0'-49.7'
L2	HOLE 562	L1	64.6'-74.0'
L3	HOLE 1009	L1	109.2'-119.6'
L4	HOLE 972	L1	52.3'-54.2'
L5	HOLE 972	L2	61.4'-68.6'
L6	HOLE 964	L1	105.6'-112.1'
S1			
S2			

CORE LABORATORIES, INC. ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT

DATE: 27 MAR 81
ANALYST: JHA/ETK

FILE NO.: H81002, PG. 1
LOCATION: TYLER COAL LAB

SAMPLE NUMBER	CLIENT I.D.	pH*	COND*	ppm Ca	ppm Mg	ppm Na	ppm K	ppm Cl	ppm HCO ₃	ppm CO ₃	ppm SO ₄
1	HOLE 1128 EHA 5-1 0'-11.8'	4.5	32	2.4	0.7	14	2.7	21	0	0	<10
2	HOLE 1128 EHA 5-2 11.8'-28.0'	4.7	18	2.0	0.4	12	2.0	15	3	0	<10
3	HOLE 1128 EHA 5-3 28.0'-40.0'	5.0	25	2.0	0.4	18	1.6	17	5	0	<10
4	HOLE 1128 EHA 5-4 40.0'-47.0'	5.6	21	1.9	0.4	23	1.1	18	7	0	<10
5	HOLE 1128 EHA 5-5 49.7'-51.0'	4.4	317	21	11	29	19	12	0	0	171
6	HOLE 1128 EHA 5-6 51.0'-54.3'	4.4	213	19	10	21	11	9	0	0	146
7	HOLE 1128 EHA 5-7 54.3'-64.1'	5.8	317	19	9.5	26	15	5	4	0	160
8	HOLE 562 EHA 2-1 0'-10.0'	4.2	53	1.9	0.9	8.7	5.4	24	0	0	<10
9	HOLE 562 EHA 2-2 10.0'-14.5'	3.9	62	1.7	0.8	11	9.0	29	0	0	20
10	HOLE 562 EHA 2-3 14.5'-17.5'	3.7	94	2.8	1.4	9.6	11	25	0	0	50
10 DUP	HOLE 562 EHA 2-3 14.5'-17.5'	3.7	93	3.3	1.2	9.3	11	25	0	0	52
11	HOLE 562 EHA 2-4 17.5'-21.0'	3.1	718	9.2	4.2	12	22	11	0	0	750
12	HOLE 562 EHA 2-5 21.0'-24.0'	3.8	82	2.4	1.1	21	4.3	27	0	0	52
13	HOLE 562 EHA 2-6 24.0'-34.5'	3.1	823	30	20	20	18	22	0	0	705
14	HOLE 562 EHA 2-7 34.5'-45.5'	4.3	416	25	24	26	29	20	0	0	285
15	HOLE 562 EHA 2-8 50.0'-63.0'	4.3	291	11	8.6	26	25	15	0	0	156
16	HOLE 562 EHA 2-9 63.0'-64.6'	4.1	374	26	18	32	30	18	0	0	246

*pH AND CONDUCTIVITY ON A 1:1 WATER AND SOIL MIXTURE
CONDUCTIVITY EXPRESSED AS Umho @ 25°C
ALL OTHER ANALYSIS PERFORMED ON 1:3 WATER EXTRACT OF AIR DRIED SAMPLE

CORE LABORATORIES, INC. ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT

DATE: 27 MAR 81
ANALYST: JHA/ETK

FILE NO.: H81002, PG. 2
LOCATION: TYLER COAL LAB

SAMPLE NUMBER	CLIENT I.D.	pH*	COND*	ppm Ca	ppm Mg	ppm Na	ppm K	ppm Cl	ppm HCO ₃	ppm CO ₃	ppm SO ₄
17	HOLE 562 EHA 2-10 74.0'-75.3'	5.2	281	19	8.7	25	18	17	3	0	126
18	HOLE 562 EHA 2-11 75.3'-87.2'	6.2	362	15	5.8	27	22	23	15	0	116
19	HOLE 1009 EHA 1-1 0'-8.0'	4.6	52	1.6	1.1	13	7.3	27	1	0	<10
20	HOLE 1009 EHA 1-2 8.0'-16.0'	4.3	56	1.4	0.6	12	12	21	0	0	12
20 DUP	HOLE 1009 EHA 1-2 8.0'-16.0'	4.3	55	1.1	0.7	12	13	21	0	0	10
21	HOLE 1009 EHA 1-3 16.0'-29.2'	4.1	84	1.4	0.7	14	10	22	0	0	15
22	HOLE 1009 EHA 1-4 29.2'-33.5'	3.3	648	16	25	19	47	18	0	0	615
23	HOLE 1009 EHA 1-5 33.5'-41.0'	3.2	103	60	86	23	16	18	0	0	960
24	HOLE 1009 EHA 1-6 41.0'-48.0'	3.7	209	15	12	20	13	30	0	0	168
25	HOLE 1009 EHA 1-7 51.4'-59.7'	3.5	500	39	29	17	33	15	0	0	390
26	HOLE 1009 EHA 1-8 59.7'-65.7'	4.0	551	58	30	18	25	13	0	0	438
27	HOLE 1009 EHA 1-9 65.7'-78.0'	4.7	143	11	6.5	13	11	20	1	0	117
28	HOLE 1009 EHA 1-10 78.0'-92.0'	5.1	117	7.8	5.4	15	10	18	0	0	63
29	HOLE 1009 EHA 1-11 92.0'-107.2'	6.1	530	36	22	24	32	16	19	0	225
30	HOLE 1009 EHA 1-12 107.2'-109.2'	7.2	980	82	39	29	50	11	175	0	342
30 DUP	HOLE 1009 EHA 1-12 107.2'-109.2'	7.2	980	81	39	29	50	11	185	0	354
31	HOLE 1009 EHA 1-13 119.6'-121.5'	7.1	428	33	15	29	20	11	35	0	152

*pH CONDUCTIVITY ON A 1:1 WATER AND SOIL MIXTURE
CONDUCTIVITY EXPRESSED AS Umho @ 25°C
ALL OTHER ANALYSIS PERFORMED ON 1:3 WATER EXTRACT OF AIR DRIED SAMPLE

CORE LABORATORIES, INC.
ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT

DATE: 27 MAR 81
ANALYST: JHA/ETK

FILE NO.: MB1002, pg. 3
LOCATION: TYLER COAL LAB

SAMPLE NUMBER	CLIENT I.D.	pH*	COND*	ppm Ca	ppm Mg	ppm Na	ppm K	ppm Cl	ppm HCO ₃	ppm CO ₃	ppm SO ₄
32	HOLE 1009 EHA 1-14 121.5'-131.4'	7.7	451	41	16	28	21	25	52	0	190
33	HOLE 972 EHA 3-1 0'-7.6'	4.5	44	2.0	1.2	11	6.9	14	0	0	21
34	HOLE 972 EHA 3-2 7.6'-10.1'	4.4	80	2.8	1.6	12	12	13	0	0	45
35	HOLE 972 EHA 3-3 10.1'-11.2'	3.7	580	78	39	34	28	15	0	0	495
36	HOLE 972 EHA 3-4 11.2'-14.2'	6.5	755	26	16	32	22	31	24	0	216
37	HOLE 972 EHA 3-5 15.2'-20.7'	7.4	539	39	20	34	19	8	71	0	198
38	HOLE 972 EHA 3-6 20.7'-36.1'	8.1	652	57	26	47	20	11	124	0	249
39	HOLE 972 EHA 3-7 36.1'-52.3'	8.3	637	53	24	49	19	15	105	0	234
40	HOLE 972 EHA 3-8 54.2'-55.7'	7.8	1225	91	41	77	41	12	315	0	294
41	HOLE 972 EHA 3-9 55.7'-59.0'	8.3	789	54	22	70	35	9	235	0	155
42	HOLE 972 EHA 3-10 59.0'-61.4'	7.4	853	59	26	76	32	24	314	0	134
42 DUP	HOLE 972 EHA 3-10 59.0'-61.4'	7.4	867	59	25	76	31	25	312	0	135
43	HOLE 972 EHA 3-11 68.6'-69.5'	7.2	745	41	19	78	31	39	213	0	132
44	HOLE 972 EHA 3-12 69.5'-75.0'	8.1	406	20	7.0	57	18	57	118	0	84
45	HOLE 972 EHA 3-13 75.0'-82.2'	8.4	629	26	10	88	20	42	200	0	63
46	HOLE 964 EHA 4-1 0'-10.0'	5.1	92	2.1	0.3	28	9.0	27	8	0	39
47	HOLE 964 EHA 4-2 10.0'-22.0'	5.1	89	1.3	0.1	28	1.5	22	8	0	50

*pH AND CONDUCTIVITY ON A 1:1 WATER AND SOIL MIXTURE

CONDUCTIVITY EXPRESSED AS μ mhos @ 25°C

ALL OTHER ANALYSIS PERFORMED ON 1:3 WATER EXTRACT OF AIR DRIED SAMPLE

CORE LABORATORIES, INC.
ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT

DATE: 27 MAR 81
ANALYST: JHA/ETK

FILE NO.: MB1002, pg. 4
LOCATION: TYLER COAL LAB

SAMPLE NUMBER	CLIENT I.D.	pH*	COND*	ppm Ca	ppm Mg	ppm Na	ppm K	ppm Cl	ppm HCO ₃	ppm CO ₃	ppm SO ₄
48	HOLE 964 EHA 4-3 22.0'-35.4'	4.4	75	1.1	0.2	22	3.3	25	3	0	28
49	HOLE 964 EHA 4-4 35.4'-47.8'	3.0	926	16	8.4	19	44	12	0	0	1125
50	HOLE 964 EHA 4-5 47.8'-54.4'	4.2	41	1.3	0.5	12	4.1	23	3	0	14
50 DUP	HOLE 964 EHA 4-5 47.8'-54.4'	4.2	38	1.1	0.4	13	4.4	22	3	0	14
51	HOLE 964 EHA 4-6 56.6'-60.3'	3.3	395	9.2	2.7	17	21	17	0	0	332
52	HOLE 964 EHA 4-7 60.3'-75.1'	4.2	104	1.1	1.4	27	9.0	19	2	0	61
53	HOLE 964 EHA 4-8 75.1'-90.8'	4.4	71	1.1	0.9	27	8.4	18	2	0	45
54	HOLE 964 EHA 4-9 90.8'-104.7'	5.2	34	1.3	0.8	20	4.6	23	5	0	12
55	HOLE 964 EHA 4-10 104.7'-105.6'	4.7	44	2.6	1.3	11	4.7	13	2	0	24
56	HOLE 964 EHA 4-11 112.1'-114.0'	5.2	458	31	14	32	20	15	11	0	196
57	HOLE 964 EHA 4-12 114.0'-122.5'	7.3	499	30	12	38	17	9	71	0	143
53		6.2	540	46	23	22	33	20	30	0	263
54		4.2	210	7.2	5.6	22	22	19	0	0	102

*pH AND CONDUCTIVITY ON A 1:1 WATER AND SOIL MIXTURE

CONDUCTIVITY EXPRESSED AS μ mhos @ 25°C

ALL OTHER ANALYSIS PERFORMED ON 1:3 WATER EXTRACT OF AIR DRIED SAMPLE

CORE LABORATORIES, INC.
ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT

DATE: 27 MAR 81
ANALYST: JMA/ETK

FILE NO.: M81002, pg. 5
LOCATION: TYLER COAL LAB

SAMPLE NUMBER	CLIENT I.D.	% TOTAL SULFUR	% TOTAL SULFUR*	NEUTRALIZATION POTENTIAL*	CATION EXCHANGE CAPACITY**	EXCHANGEABLE CATIONS**
1	HOLE 1128 EHA 5-1 0'-11.8'	<0.01	<0.31	-0.53	9.53	2.21
2	HOLE 1128 EHA 5-2 11.8'-28.0'	<0.01	<0.31	5.00	1.17	0.76
3	HOLE 1128 EHA 5-3 28.0'-40.0'	<0.01	<0.31	1.25	3.68	1.14
4	HOLE 1128 EHA 5-4 40.0'-47.0'	<0.01	<0.31	-0.95	0.61	0.48
5	HOLE 1128 EHA 5-5 49.7'-51.0'	0.75	23.4	0	15.2	8.43
6	HOLE 1128 EHA 5-6 51.0'-54.3'	0.36	11.3	2.73	4.51	2.70
7	HOLE 1128 EHA 5-7 54.3'-64.1'	0.47	14.7	3.80	11.1	8.01
8	HOLE 562 EHA 2-1 0'-10.0'	0.01	0.31	-3.05	13.3	1.13
9	HOLE 562 EHA 2-2 10.0'-14.5'	0.02	0.62	-1.70	8.44	0.51
10	HOLE 562 EHA 2-3 14.5'-17.5'	0.02	0.62	-0.75	4.00	0.38
10 DUP	HOLE 562 EHA 2-3 14.5'-17.5'	0.02	0.62	-1.03	3.94	0.33
11	HOLE 562 EHA 2-4 17.5'-21.0'	1.37	42.8	-4.25	9.26	0.36
12	HOLE 562 EHA 2-5 21.0'-24.0'	<0.01	<0.31	-0.48	3.25	0.33
13	HOLE 562 EHA 2-6 24.0'-34.5'	2.16	67.5	-1.75	4.78	0.61
14	HOLE 562 EHA 2-7 34.5'-45.5'	1.53	47.8	9.25	13.1	5.29
15	HOLE 562 EHA 2-8 50.0'-63.0'	0.70	21.9	4.00	16.8	6.89
16	HOLE 562 EHA 2-9 63.0'-64.6'	1.10	34.4	0.78	16.4	6.10

*CaCO₃ EQUIVALENT: TONS PER 1,000 TONS MATERIAL.

**MILLIEQUIVALENTS PER 100 GRAMS

CORE LABORATORIES, INC.
ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT

DATE: 27 MAR 81
ANALYST: JMA/ETK

FILE NO.: M81002, pg. 6
LOCATION: TYLER COAL LAB

SAMPLE NUMBER	CLIENT I.D.	% TOTAL SULFUR	% TOTAL SULFUR*	NEUTRALIZATION POTENTIAL*	CATION EXCHANGE CAPACITY**	EXCHANGEABLE CATIONS**
17	HOLE 562 EHA 2-10 74.0'-75.3'	0.10	3.13	2.78	11.2	6.18
18	HOLE 562 EHA 2-11 75.3'-87.2'	0.04	1.25	4.50	13.2	9.23
19	HOLE 1009 EHA 1-1 0'-8.0'	0.02	0.62	-1.25	9.66	0.94
20	HOLE 1009 EHA 1-2 8.0'-16.0'	<0.01	<0.31	-2.28	8.42	0.56
20 DUP	HOLE 1009 EHA 1-2 8.0'-16.0'	<0.01	<0.31	-2.25	8.46	0.51
21	HOLE 1009 EHA 1-3 16.0'-29.2'	0.04	1.25	-2.50	9.03	0.43
22	HOLE 1009 EHA 1-4 29.2'-33.5'	1.28	40.0	-1.25	7.50	0.59
23	HOLE 1009 EHA 1-5 33.5'-41.0'	2.74	85.6	-2.50	12.9	3.13
24	HOLE 1009 EHA 1-6 41.0'-48.0'	0.36	11.3	0.05	2.40	0.51
25	HOLE 1009 EHA 1-7 51.4'-59.7'	1.43	44.7	-0.75	8.55	3.01
26	HOLE 1009 EHA 1-8 59.7'-65.7'	1.82	56.9	0	10.8	3.36
27	HOLE 1009 EHA 1-9 65.7'-78.0'	0.12	3.75	0.30	1.13	0.46
28	HOLE 1009 EHA 1-10 78.0'-92.0'	0.04	1.25	0.50	0.65	0.43
29	HOLE 1009 EHA 1-11 92.0'-107.2'	1.18	36.9	5.38	11.7	8.35
30	HOLE 1009 EHA 1-12 107.2'-109.2'	1.33	41.6	5.38	17.7	15.5
30 DUP	HOLE 1009 EHA 1-12 107.2'-109.2'	1.28	40.0	5.75	17.8	14.9
31	HOLE 1009 EHA 1-13 119.6'-121.5'	0.14	4.38	4.00	9.33	7.14

*CaCO₃ EQUIVALENT: TONS PER 1,000 TONS MATERIAL.

**MILLIEQUIVALENTS PER 100 GRAMS

CORE LABORATORIES, INC. ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT

DATE: 27 MAR 81
ANALYST: JMA/ETK

FILE NO.: M81002, PG. 7
LOCATION: TYLER COAL LAB

SAMPLE NUMBER	CLIENT I.D.	% TOTAL SULFUR	% TOTAL SULFUR*	NEUTRALIZATION POTENTIAL*	CATION EXCHANGE CAPACITY**	EXCHANGEABLE CATIONS**
32	HOLE 1009 EHA 1-14 121.5'-131.4'	0.03	0.94	5.25	7.20	6.56
33	HOLE 972 EHA 3-1 0'-7.6'	0.03	0.94	-1.50	8.85	1.14
34	HOLE 972 EHA 3-2 7.6'-10.1'	0.04	1.25	-1.25	7.07	1.52
35	HOLE 972 EHA 3-3 10.1'-11.2'	3.19	99.7	-2.75	36.9	3.43
36	HOLE 972 EHA 3-4 11.2'-14.2'	1.28	40.0	3.63	23.4	20.1
37	HOLE 972 EHA 3-5 15.2'-20.7'	0.42	13.1	12.7	10.5	9.47
38	HOLE 972 EHA 3-6 20.7'-36.1'	0.27	8.44	14.2	9.25	9.60
39	HOLE 972 EHA 3-7 36.1'-52.3'	0.17	5.31	15.0	10.3	10.3
40	HOLE 972 EHA 3-8 54.2'-55.7'	0.33	10.3	6.85	25.9	26.6
41	HOLE 972 EHA 3-9 55.7'-59.0'	0.12	3.75	4.50	21.3	22.3
42	HOLE 972 EHA 3-10 59.0'-61.4'	0.19	5.93	8.20	31.7	28.3
42 DUP	HOLE 972 EHA 3-10 59.0'-61.4'	0.20	6.25	8.13	31.7	27.8
43	HOLE 972 EHA 3-11 68.6'-69.5'	0.22	6.88	10.3	22.5	18.8
44	HOLE 972 EHA 3-12 69.5'-75.0'	0.18	5.63	5.50	8.66	8.08
45	HOLE 972 EHA 3-13 75.0'-82.2'	0.03	0.94	10.0	23.0	20.6
46	HOLE 964 EHA 4-1 0'-10.0'	<0.01	0.31	0	10.0	3.92
47	HOLE 964 EHA 4-2 10.0'-22.0'	<0.01	0.31	-1.78	9.11	1.37

*CaCO₃ EQUIVALENT: TONS PER 1,000 TONS MATERIAL
**MILLIEQUIVALENTS PER 100 GRAMS

CORE LABORATORIES, INC. ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT

DATE: 27 MAR 81
ANALYST: JMA/ETK

FILE NO.: M81002, PG. 8
LOCATION: TYLER COAL LAB

SAMPLE NUMBER	CLIENT I.D.	% TOTAL SULFUR	% TOTAL SULFUR*	NEUTRALIZATION POTENTIAL*	CATION EXCHANGE CAPACITY**	EXCHANGEABLE CATIONS**
48	HOLE 964 EHA 4-3 22.0'-35.4'	<0.01	<0.31	-1.25	8.96	1.23
49	HOLE 964 EHA 4-4 35.4'-47.8'	1.75	54.7	-3.00	10.6	0.34
50	HOLE 964 EHA 4-5 47.8'-54.4'	<0.01	<0.31	0.25	1.06	0.32
50 DUP	HOLE 964 EHA 4-5 47.8'-54.4'	0.92	28.7	0.23	1.06	0.37
51	HOLE 964 EHA 4-6 56.6'-60.3'	<0.01	<0.31	-1.75	6.48	0.28
52	HOLE 964 EHA 4-7 60.3'-75.1'	<0.01	<0.31	0	1.84	0.34
53	HOLE 964 EHA 4-8 75.1'-90.8'	<0.01	<0.31	1.00	2.19	0.30
54	HOLE 964 EHA 4-9 90.8'-104.7'	<0.01	<0.31	1.00	0.58	0.42
55	HOLE 964 EHA 4-10 104.7'-105.6'	0.42	13.1	0.75	0.99	0.65
56	HOLE 964 EHA 4-11 112.1'-114.0'	0.82	25.6	0.50	18.5	12.3
57	HOLE 964 EHA 4-12 114.0'-122.5'	0.28	8.75	5.50	17.3	15.7
53		1.12	35.0	6.63	10.5	8.68
54		0.59	18.4	3.38	16.3	7.75

*CaCO₃ EQUIVALENT: TONS PER 1,000 TONS MATERIAL
**MILLIEQUIVALENTS PER 100 GRAMS

CORE LABORATORIES, INC.
ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT

DATE: 27 MAR 81
ANALYST: JMA/ETK

FILE NO.: M81002, PG. 9
LOCATION: TYLER COAL LAB

SAMPLE NUMBER				FORMS OF SULFUR (OVERBURDEN)			
				% TOTAL SULFUR	% SULFATE SULFUR*	% PYRITIC SULFUR**	% ORGANIC SULFUR***
	CLIENT I.D.						
5	HOLE 1128	EHA 5-5	49.7'-51.0'	0.75	0.03	0.40	0.32
6	HOLE 1128	EHA 5-6	51.0'-54.3'	0.36	0.09	0.11	0.16
7	HOLE 1128	EHA 5-7	54.3'-64.1'	0.47	0.16	0.08	0.23
11	HOLE 562	EHA 2-4	17.5'-21.0'	1.37	0.26	0.97	0.14
13	HOLE 562	EHA 2-6	24.0'-34.5'	2.16	0.40	1.60	0.16
14	HOLE 562	EHA 2-7	34.5'-45.5'	1.53	0.15	1.10	0.28
15	HOLE 562	EHA 2-8	50.0'-63.0'	0.70	0.08	0.38	0.24
16	HOLE 562	EHA 2-9	63.0'-64.6'	1.10	0.17	0.69	0.24
22	HOLE 1009	EHA 1-4	29.2'-33.5'	1.28	0.41	0.75	0.12
23	HOLE 1009	EHA 1-5	33.5'-41.0'	2.74	0.34	2.16	0.24
24	HOLE 1009	EHA 1-6	41.0'-48.0'	0.36	0.11	0.20	0.05
25	HOLE 1009	EHA 1-7	51.4'-59.7'	1.43	0.22	1.06	0.15
26	HOLE 1009	EHA 1-8	59.7'-65.7'	1.82	0.20	1.33	0.29
29	HOLE 1009	EHA 1-11	92.0'-107.2'	1.18	0.21	0.75	0.22
30	HOLE 1009	EHA 1-12	107.2'-109.2'	1.33	0.18	0.80	0.35
30 DUP	HOLE 1009	EHA 1-12	107.2'-109.2'	1.28	0.14	0.87	0.27
35	HOLE 972	EHA 3-3	10.1'-11.2'	3.19	0.10	2.46	0.63

*HCl EXTRACTABLE

**HNO₃ EXTRACTABLE

***NON-EXTRACTABLE

CORE LABORATORIES, INC.
ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT

DATE: 27 MAR 81
ANALYST: JMA/ETK

FILE NO.: M81002, PG. 10
LOCATION: TYLER COAL LAB

SAMPLE NUMBER			FORMS OF SULFUR (OVERBURDEN)				
			CLIENT I.D.	% TOTAL SULFUR	% SULFATE SULFUR*	% PYRITIC SULFUR**	% ORGANIC SULFUR***
36	HOLE 972	EHA 3-4	11.2'-14.2'	1.28	0.27	0.81	0.20
49	HOLE 964	EHA 4-4	35.4'-47.8'	1.75	0.46	1.09	0.20
51	HOLE 964	EHA 4-6	56.6'-60.3'	0.92	0.21	0.61	0.10
55	HOLE 964	EHA 4-10	104.7'-105.6'	0.42	0.20	0.14	0.08
56	HOLE 964	EHA 4-11	112.1'-114.0'	0.82	0.14	0.41	0.27
83				1.12	0.06	0.65	0.41
84				0.59	0.04	0.32	0.23

*HCl EXTRACTABLE

**HNO₃ EXTRACTABLE

***NON-EXTRACTABLE

CORE LABORATORIES, INC. ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT

DATE: 27 MAR 81
ANALYST: JHA/ETK

FILE NO.: H81002, pg. 11
LOCATION: TYLER COAL LAB

SAMPLE NUMBER	CLIENT I.D.	ppm B*	ppm Cd	ppm Cr	ppm Cu	ppm Mn	ppm Mo	ppm Pb	ppm Zn	ppm As	ppm Se
1	HOLE 1128 EHA 5-1 0'-11.8'	0.16	1.0	41	11	49	10	10	21	37	<2.0
2	HOLE 1128 EHA 5-2 11.8'-28.0'	0.06	1.5	12	4.5	19	5.0	5.0	4.5	8	<2.0
3	HOLE 1128 EHA 5-3 28.0'-40.0'	0.08	1.0	19	7.0	13	15	5.0	6.0	29	<2.0
4	HOLE 1128 EHA 5-4 40.0'-47.0'	0.06	1.5	10	3.5	8.5	10	5.0	4.5	13	<2.0
5	HOLE 1128 EHA 5-5 49.7'-51.0'	2.09	2.5	68	35	62	25	10	140	118	2.8
6	HOLE 1128 EHA 5-6 51.0'-54.3'	0.48	0.5	39	11	89	5.0	35	105	84	<2.0
7	HOLE 1128 EHA 5-7 54.3'-64.1'	0.48	1.0	38	16	167	5.0	35	77	82	<2.0
8	HOLE 562 EHA 2-1 0'-10.0'	0.17	1.5	56	15	31	5.0	40	25	86	<2.0
9	HOLE 562 EHA 2-2 10.0'-14.5'	0.27	2.0	43	7.5	21	5.0	20	12	45	<2.0
10	HOLE 562 EHA 2-3 14.5'-17.5'	0.18	0.5	19	3.5	22	5.0	15	9.5	21	<2.0
10 DUP	HOLE 562 EHA 2-3 14.5'-17.5'	0.13	0.5	25	4.5	23	5.0	20	10	19	<2.0
11	HOLE 562 EHA 2-4 17.5'-21.0'	0.58	1.0	41	7.5	18	5.0	25	19	51	<2.0
12	HOLE 562 EHA 2-5 21.0'-24.0'	0.09	0.5	18	4.5	13	5.0	25	7.0	25	<2.0
13	HOLE 562 EHA 2-6 24.0'-34.5'	1.83	2.0	35	6.0	77	5.0	15	60	41	<2.0
14	HOLE 562 EHA 2-7 34.5'-45.5'	0.87	2.0	58	18	395	5.0	20	82	70	2.3
15	HOLE 562 EHA 2-8 50.0'-63.0'	1.23	3.0	69	22	405	10	35	90	75	2.0
16	HOLE 562 EHA 2-9 63.0'-64.6'	2.29	1.5	57	23	159	10	30	87	78	<2.0

ALL ANALYSIS DONE ON TOTAL BASIS
*HOT WATER EXTRACTABLE

CORE LABORATORIES, INC. ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN ANALYSIS

DATE: 27 MAR 81
ANALYST: JHA/ETK

FILE NO.: H81002, pg. 12
LOCATION: TYLER COAL LAB

SAMPLE NUMBER	CLIENT I.D.	ppm B*	ppm Cd	ppm Cr	ppm Cu	ppm Mn	ppm Mo	ppm Pb	ppm Zn	ppm As	ppm Se
17	HOLE 562 EHA 2-10 74.0'-75.3'	2.39	2.5	54	23	145	5.0	35	82	60	3.5
18	HOLE 562 EHA 2-11 75.3'-87.2'	0.71	2.0	54	23	287	5.0	35	95	66	2.5
19	HOLE 1009 EHA 1-1 0'-8.0'	0.71	2.0	51	42	82	5.0	80	80	71	<2.0
20	HOLE 1009 EHA 1-2 8.0'-16.0'	0.15	3.0	50	9.5	22	10	30	22	47	<2.0
20 DUP	HOLE 1009 EHA 1-2 8.0'-16.0'	0.17	2.5	55	9.5	20	10	40	22	50	<2.0
21	HOLE 1009 EHA 1-3 16.0'-29.2'	0.21	0.5	48	9.0	23	5.0	20	19	36	<2.0
22	HOLE 1009 EHA 1-4 29.2'-33.5'	0.66	0.5	30	6.0	26	5.0	25	56	23	<2.0
23	HOLE 1009 EHA 1-5 33.5'-41.0'	1.37	1.0	46	8.5	40	5.0	30	75	34	<2.0
24	HOLE 1009 EHA 1-6 41.0'-48.0'	0.17	2.0	17	2.0	22	5.0	15	15	13	<2.0
25	HOLE 1009 EHA 1-7 51.4'-59.7'	0.47	1.5	42	6.0	36	5.0	25	61	32	<2.0
26	HOLE 1009 EHA 1-8 59.7'-65.7'	2.72	1.0	44	1.0	35	10	20	41	28	2.5
27	HOLE 1009 EHA 1-9 65.7'-78.0'	0.27	1.0	13	3.0	49	5.0	15	10	21	<2.0
28	HOLE 1009 EHA 1-10 78.0'-92.0'	0.09	3.0	12	3.0	53	10	15	9.0	11	<2.0
29	HOLE 1009 EHA 1-11 92.0'-107.2'	0.58	1.5	60	23	342	5.0	30	97	66	<2.0
30	HOLE 1009 EHA 1-12 107.2'-109.2'	0.90	2.0	72	31	169	5.0	40	110	99	<2.0
30 DUP	HOLE 1009 EHA 1-12 107.2'-109.2'	0.83	2.5	69	31	167	5.0	40	110	105	<2.0
31	HOLE 1009 EHA 1-13 119.6'-121.5'	1.21	2.5	51	20	114	10	30	77	100	<2.0

ALL ANALYSIS DONE ON TOTAL BASIS
*HOT WATER EXTRACTABLE

CORE LABORATORIES, INC.
ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT

DATE: 27 MAR 81
ANALYST: JHA/ETK

FILE NO.: H81002, pg. 13
LOCATION: TYLER COAL LAB

SAMPLE NUMBER	CLIENT I.D.			ppm Ba	ppm Cd	ppm Cr	ppm Cu	ppm Mn	ppm Mo	ppm Pb	ppm Zn	ppm As	ppm Se
32	HOLE 1009	EHA 1-14	121.5'-131.4'	0.70	3.5	52	15	138	5.0	30	72	92	<2.0
33	HOLE 972	EHA 3-1	0'-7.6'	0.52	2.5	40	23	43	5.0	35	36	49	<2.0
34	HOLE 972	EHA 3-2	7.6'-10.1'	0.26	4.0	61	21	31	5.0	25	13	96	2.0
35	HOLE 972	EHA 3-3	10.1'-11.2'	5.28	2.5	55	35	22	5.0	20	77	62	<2.0
36	HOLE 972	EHA 3-4	11.2'-14.2'	0.43	2.5	71	34	60	5.0	20	210	125	<2.0
37	HOLE 972	EHA 3-5	15.2'-20.7'	0.32	1.0	50	18	512	15	30	95	83	2.0
38	HOLE 972	EHA 3-6	20.7'-36.1'	0.27	0.5	36	12	497	5.0	25	65	57	<2.0
39	HOLE 972	EHA 3-7	36.1'-52.3'	0.31	1.5	39	13	710	5.0	25	60	55	<2.0
40	HOLE 972	EHA 3-8	54.2'-55.7'	1.95	2.5	62	61	73	10	40	100	106	2.5
41	HOLE 972	EHA 3-9	55.7'-59.0'	0.86	2.5	74	30	103	10	35	110	99	3.5
42	HOLE 972	EHA 3-10	59.0'-61.4'	5.05	0.5	68	30	49	5.0	30	40	110	2.3
42 DUP	HOLE 972	EHA 3-10	59.0'-61.4'	5.22	0.5	58	29	49	5.0	30	39	103	2.8
43	HOLE 972	EHA 3-11	68.6'-69.5'	4.24	0.5	66	43	141	5.0	35	87	51	3.3
44	HOLE 972	EHA 3-12	69.5'-75.0'	0.60	1.0	44	15	166	10	25	82	48	2.8
45	HOLE 972	EHA 3-13	75.0'-82.2'	0.79	1.5	56	23	367	10	25	87	25	<2.0
46	HOLE 964	EHA 4-1	0'-10.0'	0.67	4.0	78	25	145	10	55	85	48	<2.0
47	HOLE 964	EHA 4-2	10.0'-22.0'	0.35	0.5	48	8.0	32	5.0	30	20	20	<2.0

ALL ANALYSIS DONE ON TOTAL BASIS
*HOT WATER EXTRACTABLE

CORE LABORATORIES, INC.
ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT

DATE: 27 MAR 81
ANALYST: JHA/ETK

FILE NO.: H81002, pg. 14
LOCATION: TYLER COAL LAB

SAMPLE NUMBER	CLIENT I.D.			ppm Ba	ppm Cd	ppm Cr	ppm Cu	ppm Mn	ppm Mo	ppm Pb	ppm Zn	ppm As	ppm Se
48	HOLE 964	EHA 4-3	22.0'-35.4'	0.41	0.5	49	8.5	21	5.0	20	20	26	<2.0
49	HOLE 964	EHA 4-4	35.4'-47.8'	1.30	0.5	44	11	25	5.0	25	31	33	2.8
50	HOLE 964	EHA 4-5	47.8'-54.4'	0.19	1.5	12	4.0	12	5.0	15	3.0	7.0	<2.0
50 DUP	HOLE 964	EHA 4-5	47.8'-54.4'	0.27	0.5	11	3.5	12	5.0	15	4.0	9.0	<2.0
51	HOLE 964	EHA 4-6	56.6'-60.3'	0.50	<0.5	40	8.5	16	10	25	24	16	<2.0
52	HOLE 964	EHA 4-7	60.3'-75.1'	0.24	0.5	23	4.5	12	5.0	20	5.0	11	<2.0
53	HOLE 964	EHA 4-8	75.1'-90.8'	0.25	<0.5	18	4.0	7.5	15	20	2.5	8.0	<2.0
54	HOLE 964	EHA 4-9	90.8'-104.7'	0.17	<0.5	10	7.5	10	10	15	2.0	11	<2.0
55	HOLE 964	EHA 4-10	104.7'-105.6'	0.25	<0.5	13	9.5	7.0	10	10	6.0	6.0	2.8
56	HOLE 964	EHA 4-11	112.1'-114.0'	2.48	0.5	77	37	48	10	35	135	98	<2.0
57	HOLE 964	EHA 4-12	114.0'-122.5'	0.19	0.5	49	20	220	5.0	35	95	70	<2.0
S3				0.82	0.5	54	23	335	5.0	25	95	72	<2.0
S4				1.81	0.5	61	26	340	5.0	30	90	69	<2.0

ALL ANALYSIS DONE ON TOTAL BASIS
*HOT WATER EXTRACTABLE

CORE LABORATORIES, INC.
ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT

DATE: 27 MAR 81
ANALYST: JMA/ETK

FILE NO.: MB1002, PG. 15
LOCATION: TYLER COAL LAB

SAMPLE NUMBER	WATER HOLDING CAPACITY**				SOIL TEXTURE ANALYSIS				
	CLIENT I.D.		1/3 BAR %	15 BAR %	%SAND	%SILT	%CLAY	CLASSIFICATION	
1	HOLE 1128	EHA 5-1	0'-11.8'	12.2	6.0	52	22	26	SANDY CLAY LOAM
2	HOLE 1128	EHA 5-2	11.8'-28.0'	7.5	2.8	86	12	2	SAND
3	HOLE 1128	EHA 5-3	28.0'-40.0'	8.3	4.1	86	10	4	LOAMY SAND
4	HOLE 1128	EHA 5-4	40.0'-47.0'	3.9	3.4	94	4	2	SAND
5	HOLE 1128	EHA 5-5	49.7'-51.0'	36.2	16.6	10	32	58	CLAY
6	HOLE 1128	EHA 5-6	51.0'-54.3'	19.6	7.4	62	18	20	SANDY CLAY LOAM
7	HOLE 1128	EHA 5-7	54.3'-64.1'	20.5	7.4	48	36	16	LOAM
8	HOLE 562	EHA 2-1	0'-10.0'	25.4	10.6	24	38	38	CLAY LOAM
9	HOLE 562	EHA 2-2	10.0'-14.5'	16.3	6.4	58	22	20	SANDY LOAM
10	HOLE 562	EHA 2-3	14.5'-17.5'	9.0	3.6	68	20	12	SANDY LOAM
11	HOLE 562	EHA 2-4	17.5'-21.0'	21.1	8.3	40	32	28	LOAM
12	HOLE 562	EHA 2-5	21.0'-24.0'	10.7	3.8	80	8	12	SANDY LOAM
13	HOLE 562	EHA 2-6	24.0'-34.5'	14.6	5.9	58	18	24	SANDY CLAY LOAM
14	HOLE 562	EHA 2-7	34.5'-45.5'	26.3	15.7	36	30	34	CLAY LOAM
15	HOLE 562	EHA 2-8	50.0'-63.0'	30.3	13.6	24	42	34	CLAY LOAM
16	HOLE 562	EHA 2-9	63.0'-64.6'	19.0	8.5	22	48	30	CLAY LOAM

**REPORTED AS % DRY WEIGHT

CORE LABORATORIES, INC.
ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT

DATE: 27 MAR 81
ANALYST: JMA/ETK

FILE NO.: MB1002, PG. 16
LOCATION: TYLER COAL LAB

SAMPLE NUMBER	WATER HOLDING CAPACITY**				SOIL TEXTURE ANALYSIS			
	CLIENT I.D.	1/3 BAR %	15 BAR %	%SAND	%SILT	%CLAY	CLASSIFICATION	
17	HOLE 562 EHA 2-10 74.0'-75.3'	24.0	2.0	36	38	26	LOAM	
18	HOLE 562 EHA 2-11 75.3'-87.2'	22.0	9.0	16	80	4	SILT	
19	HOLE 1009 EHA 1-1 0'-8.0'	20.0	11.0	60	12	28	SANDY CLAY LOAM	
20	HOLE 1009 EHA 1-2 8.0'-16.0'	13.0	9.0	42	28	30	CLAY LOAM	
21	HOLE 1009 EHA 1-3 16.0'-29.2'	12.8	7.6	64	10	26	SANDY CLAY LOAM	
22	HOLE 1009 EHA 1-4 29.2'-33.5'	16.4	14.4	68	10	22	SANDY CLAY LOAM	
23	HOLE 1009 EHA 1-5 33.5'-41.0'	15.9	7.6	30	40	30	CLAY LOAM	
24	HOLE 1009 EHA 1-6 41.0'-48.0'	31.2	15.0	74	22	4	LOAMY SAND	
25	HOLE 1009 EHA 1-7 51.4'-59.7'	15.1	5.4	40	30	30	CLAY LOAM	
26	HOLE 1009 EHA 1-8 59.7'-65.7'	13.3	5.7	50	30	20	LOAM	
27	HOLE 1009 EHA 1-9 65.7'-78.0'	3.5	1.3	82	8	10	LOAMY SAND	
28	HOLE 1009 EHA 1-10 78.0'-92.0'	2.6	1.0	88	6	6	SAND	
29	HOLE 1009 EHA 1-11 92.0'-107.2'	24.1	9.1	24	38	38	CLAY LOAM	
30	HOLE 1009 EHA 1-12 107.2'-109.2'	31.9	16.9	6	38	56	CLAY	
31	HOLE 1009 EHA 1-13 119.6'-121.5'	19.5	13.3	50	26	24	SANDY CLAY LOAM	

**REPORTED AS % DRY WEIGHT

CORE LABORATORIES, INC.
ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT

DATE: 27 MAR 81
ANALYST: JHA/ETK

FILE NO.: HB1002, pg. 17
LOCATION: TYLER COAL LAB

SAMPLE NUMBER	WATER HOLDING CAPACITY**				SOIL TEXTURE ANALYSIS					
	CLIENT I.D.			1/3 BAR %	15 BAR %	%SAND	%SILT	%CLAY	CLASSIFICATION	
32	HOLE 1009	EHA 1-14	121.5'-131.4'	17.3	7.9	36	42	22	LOAM	
33	HOLE 972	EHA 3-1	0'-7.6'	21.3	10.2	50	18	32	SANDY CLAY LOAM	
34	HOLE 972	EHA 3-2	7.6'-10.1'	15.8	13.5	26	38	36	CLAY LOAM	
35	HOLE 972	EHA 3-3	10.1'-11.2'	30.1	24.2	42	34	24	LOAM	
36	HOLE 972	EHA 3-4	11.2'-14.2'	37.6	34.1	12	64	24	SILTY LOAM	
37	HOLE 972	EHA 3-5	15.2'-20.7'	22.1	18.2	50	30	20	LOAM	
38	HOLE 972	EHA 3-6	20.7'-36.1'	34.3	20.0	66	22	12	SANDY LOAM	
39	HOLE 972	EHA 3-7	36.1'-52.3'	31.3	14.7	68	22	10	SANDY LOAM	
40	HOLE 972	EHA 3-8	54.2'-55.7'	34.6	23.0	8	24	68	CLAY	
41	HOLE 972	EHA 3-9	55.7'-59.0'	34.2	30.6	8	32	60	CLAY	
42	HOLE 972	EHA 3-10	59.0'-61.4'	42.6	31.7	12	28	60	CLAY	
43	HOLE 972	EHA 3-11	68.6'-69.5'	28.4	25.2	46	30	24	LOAM	
44	HOLE 972	EHA 3-12	69.5'-75.0'	41.7	13.9	54	34	12	SANDY LOAM	
45	HOLE 972	EHA 3-13	75.0'-82.2'	25.6	2.1	20	56	24	SILTY LOAM	
46	HOLE 964	EHA 4-1	0'-10.0'	20.1	10.8	50	16	34	SANDY CLAY	
47	HOLE 964	EHA 4-2	10.0'-22.0'	17.9	9.0	38	40	22	LOAM	

**REPORTED AS % DRY WEIGHT

CORE LABORATORIES, INC.
ANALYTICAL REPORT

ESPEY, HUSTON AND ASSOCIATES, INC.
TEXAS UTILITIES GENERATING COMPANY
MILL CREEK OVERBURDEN PROJECT

DATE: 27 MAR 81
ANALYST: JHA/ETK

FILE NO.: HB1002, pg. 18
LOCATION: TYLER COAL LAB

SAMPLE NUMBER	WATER HOLDING CAPACITY **				SOIL TEXTURE ANALYSIS				
	CLIENT I.D.			1/3 BAR %	15 BAR %	%SAND	%SILT	%CLAY	CLASSIFICATION
48	HOLE 964	EHA 4-3	22.0'-35.4'	8.9	6.0	70	10	20	SANDY CLAY LOAM
49	HOLE 964	EHA 4-4	35.4'-47.8'	16.8	7.3	34	40	26	LOAM
50	HOLE 964	EHA 4-5	47.8'-54.4'	4.0	2.6	86	10	4	LOAMY SAND
51	HOLE 964	EHA 4-6	56.6'-60.3'	13.1	2.6	48	28	24	LOAM
52	HOLE 964	EHA 4-7	60.3'-75.1'	6.1	2.9	74	18	8	SANDY LOAM
53	HOLE 964	EHA 4-8	75.1'-90.8'	3.7	3.0	94	6	0	SAND
54	HOLE 964	EHA 4-9	90.8'-104.7'	6.9	3.4	94	4	2	SAND
55	HOLE 964	EHA 4-10	104.7'-105.6'	2.7	1.5	94	4	2	SAND
56	HOLE 964	EHA 4-11	112.1'-114.0'	32.5	18.2	10	34	56	CLAY
57	HOLE 964	EHA 4-12	114.0'-122.5'	12.4	11.7	22	50	28	CLAY LOAM
58				27.7	16.4	30	46	24	LOAM
59				29.3	15.1	16	58	26	SILTY LOAM

**REPORTED AS % DRY WEIGHT

5. Agreement for Railroad Road Crossings

Rusk County
F.M. Road 2658
State Highway 43
F.M. Road 1716

AGREEMENT BETWEEN
THE STATE OF TEXAS

AND

TEXAS UTILITIES SERVICES INC.

FOR THE CONSTRUCTION AND MAINTENANCE
OF RAILROAD STRUCTURES OVER F.M. ROAD 2658,
STATE HIGHWAY 43, AND F.M. ROAD 1716

STATE OF TEXAS |

COUNTY OF TRAVIS |

THIS AGREEMENT, entered into this 15th day of March, 1982,
by and between the State of Texas, hereinafter called the "State",
represented by the Engineer-Director of the State Department of Highways and
Public Transportation, acting for and in behalf of the State Highway and
Public Transportation Commission, and Texas Utilities Services Inc.
hereinafter called the "Company", acting by and through M. G. J. Fikar,
its Executive Vice President, hereunto duly authorized.

W I T N E S S E T H

WHEREAS, the State owns and maintains a system of highways, including
Farm to Market Road 2658, State Highway 43, and Farm to Market Road 1716 in
Rusk County, for public use and benefit; and

WHEREAS, in Rusk County, the Company desires to construct a lignite
hauling rail line from its Martin Lake Steam Electric Station southwest of
Tatum to a lignite source northeast of Henderson; and

WHEREAS, the proposed rail line will cross Farm to Market Road 2658,
State Highway 43, and Farm to Market Road 1716 at the approximate locations
shown on Exhibit "A", attached hereto and made a part of this agreement; and

WHEREAS, application has been made by the Company to the State for a
permit to cross Farm to Market Road 2658, State Highway 43, and Farm to
Market Road 1716 by means of a rail line on a highway-railway grade
separation structure at each crossing.

A G R E E M E N T

NOW, THEREFORE, in consideration of the premises and of the mutual covenants and agreements of the parties hereto, to be by them respectively kept and performed as hereinafter set forth, it is agreed as follows:

ARTICLE 1. For and in consideration of one dollar (\$1.00) paid by the Company to the State, receipt of which is hereby acknowledged, the State grants to the Company license and permission to construct, maintain, and use highway-railway grade separation structures, hereinafter called Structures, and suitable approaches over and across Farm to Market Road 2658, State Highway 43, and Farm to Market Road 1716 at the approximate locations indicated on Exhibit "A".

ARTICLE 2. The Company at its entire cost and expense shall prepare complete construction drawings and specifications for the Structures, approaches thereto, and any incidental work required. No construction work shall be performed on highway right of way until these plans and specifications have been approved by the State and after such approval has been given, no changes or alterations shall be made without the written approval of the State.

The plans and specifications, after having been approved in writing by the State, are hereby adopted as the plans and specifications covering the construction of said Structures, approaches thereto, and incidental work as required. A copy of the approved plans and specifications shall be marked Exhibit "B", attached hereto, and made a part of this agreement.

ARTICLE 3. The Company shall provide such detours, barricades, warning signs, flares, flashing light signals, and flagmen as are deemed necessary by the State to direct and protect vehicular traffic while the construction work and related activities, as hereinafter described to be done on highway right of way, is in progress. Details of these traffic handling measures shall be shown on the plans. If, during construction, it becomes necessary or desirable to modify the traffic control measures shown on the plans, prior approval must be obtained from the State's District Engineer in Tyler.

ARTICLE 4. The Company agrees that where structural steel is used in construction of the Structures, the plans will show what protective coating, if any, is to be applied to those portions visible from the roadway, and that future maintenance of the Structures shall retain the same appearance and color as that shown on the approved plans unless otherwise agreed in writing by the State. The Company also agrees to keep the Structures free from all advertising matter or insignia except such identification lettering as may be approved by the State.

ARTICLE 5. The Company shall construct, at its entire cost and expense, the Structures and incidental items referred to in Articles 1 and 2. The State shall have the right to inspect the work on highway right of way at any time during the progress of the work and to make a final inspection thereof. The Company shall correct any deficiencies revealed

by the State's inspection of the work or the traffic protection measures where such deficiencies could have an adverse effect on public use of the highway or the safety and convenience of the travelling public.

ARTICLE 6. The Company shall reimburse the State for all expenses it incurs in connection with construction of the Structures. These may include, but are not limited to, expenses for review of plans, construction inspections, travel, and meetings related to the project.

Upon execution of this agreement, the Company shall pay to the State, by check made payable to the State Treasurer, Account Trust Fund No. 927, an amount of \$10,000 which is estimated to be the total of all costs that will be incurred by the State in connection with the construction of the Structures.

If, at any time, it becomes apparent that the amount previously deposited by the Company will not be sufficient to cover the State's costs, the Company, upon request from the State, shall make additional payments to the State to cover these costs.

After all construction is completed, the State will make a final accounting in accordance with its established accounting procedures. Any funds previously deposited by the Company and not expended for the cost of these Structures will be returned to the Company.

ARTICLE 7. The Company shall assume the entire financial responsibility for the maintenance and use of the Structures on the State's right of way as shown on Exhibits "A" and "B", and nothing contained herein shall ever be construed to place upon the State any liability for injury to or death of persons, or for damage to or loss of property arising from or in any manner connected with the construction, maintenance, or use of the tracks and Structures on State property.

ARTICLE 8. It is understood that should any or all of the Structures licensed hereunder cease to be required or cease to be maintained for the intended purpose for a period in excess of two years, the license for the affected Structure or Structures shall expire and be terminated and the Company agrees that it shall then, at its entire expense, remove the Structure or Structures from the State's right of way and restore that right of way to a condition satisfactory to the State.

ARTICLE 9. The Company agrees to indemnify the State against any damages or claims for damages, including those under the Texas Torts Claims Act, which may be inflicted upon the property of others or to persons, whether one or more, arising out of, incidental to, or in any manner associated with or attributed to the construction, use, maintenance, or possible subsequent removal of the Structures covered in this agreement.

ARTICLE 10. The license granted hereby shall not in any way prevent the State, at its expense, from changing the highway on the right of way over which license has been granted, provided such changes will not adversely

affect the intended use of the Structures or compromise the safety of the rail traffic.

ARTICLE 11. The State reserves the right to attach vertical clearance information signs to the fascia of the Structures. Said signs will thereafter be maintained by the State in a manner which will not interfere with the Company's operations.

ARTICLE 12. The contract or contracts let by the Company for construction of the Structures and incidental work shall provide for insurance as follows:

1. Standard Manufacturers' and Contractors' Liability Insurance.

The Contractor shall furnish evidence to the State that, with respect to the operations he performs, he carries regular Contractors' Liability Insurance providing for a limit of not less than one million dollars (\$1,000,000.00) for all damages arising out of bodily injuries to/or death of one or more persons in any one occurrence, and Property Damage Liability Insurance providing for a limit of not less than five hundred thousand dollars (\$500,000.00) for all damages arising out of injury to/or destruction of property in any one occurrence and subject to that limit per occurrence, a total (or aggregate) limit of one million dollars (\$1,000,000.00) for all damages arising out of injury to/or destruction of property during the policy period.

If any part of the work is sublet, similar insurance shall be provided by or in behalf of the subcontractors to cover their operations.

2. Contractors' Protective Liability Insurance.

The Contractor shall furnish evidence to the State that, with respect to the operations performed for him by subcontractors, he carries in his own behalf regular Contractors' Protective Liability Insurance providing for a limit of not less than one million dollars (\$1,000,000.00) for all damages arising out of bodily injuries to/or death of one or more persons in any one occurrence, and Protective Property Damage Liability Insurance providing for a limit of not less than five hundred thousand dollars (\$500,000.00) for all damages arising out of injury to/or destruction of property in any one occurrence and subject to that limit per occurrence, a total (or aggregate) limit of one million dollars (\$1,000,000.00) for all damages arising out of injury to/or destruction of property during the policy period.

ARTICLE 13. The approval hereby granted shall cease and be null and void unless actual construction of the Structures herein described is commenced within three years and completed within five years.

ARTICLE 14. The terms of this agreement shall transfer to and be binding upon any successors and/or assigns of Texas Utilities Services Inc.

IN TESTIMONY WHEREOF, the parties hereto have caused these presents to be executed in duplicate on the day above stated.

TEXAS UTILITIES SERVICES INC.

By: 27 Fiken
Title Executive Vice President

ATTEST:

Peter B. Gault

THE STATE OF TEXAS

Certified as being executed for the purpose and effect of activating and/or carrying out the orders, established policies, or work programs heretofore approved and authorized by the State Highway and Public Transportation Commission:

By: M. H. Good 3-15-82
Engineer-Director

Executed and approved for State Highway and Public Transportation Commission under authority of Commission Minute Order No. 78501, dated May 20, 1981.

RECOMMENDED FOR EXECUTION:

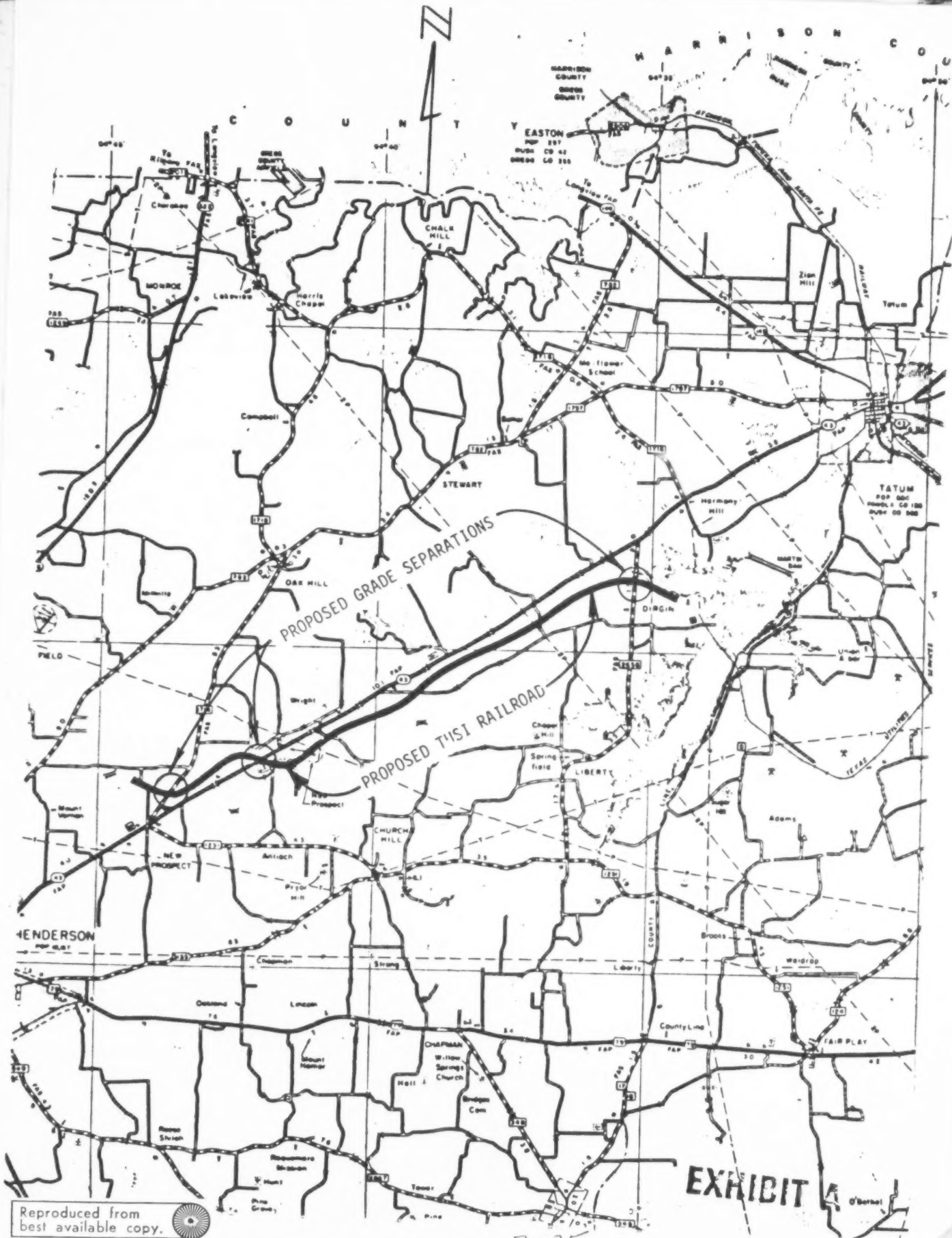
J. P. Potter
District Engineer

John Hernandez
Bridge Engineer

R. L. Lewis
Chief Engineer of Highway Design 1075

AR Castellano
Director, Finance

W. H. Pearson
Assistant Engineer-Director



Reproduced from
best available copy.



EXHIBIT A

B-35